LONDON JOURNAL OF MEDICINE,

A MONTHLY

Record of the Medical Sciences.

DECEMBER 1850.—No. XXIV.

ORIGINAL COMMUNICATIONS.

ON THE HEALTH OF LONDON DURING THE SIX MONTHS TERMINATING SEPTEMBER 28, 1850.

By JOHN WEBSTER, M.D., F.R.S.; Fellow of the Royal College of Physicians; Consulting Physician to St. George and St. James's Dispensary, etc.

[*Read before the Medical Society of London, November* 2, 1850.]

THE approval which has been expressed, in several quarters, of my previous half-yearly Reports on the Health of the Metropolis, published in the LONDON JOURNAL OF MEDICINE, induces me again to resume the subject. In doing so, I gratefully acknowledge the favourable notice which medical writers, and others, have taken of my former papers; and, as the facts then collected, and my commentaries, were considered valuable, I here follow the method formerly adopted. I also believe with practical physicians, that medical science and practice, and sanitary improvements, are greatly promoted by the accumulation of evidence, on a large scale, respecting the diseases and mortality of so immense a population as that of London. Deductions drawn from the innumerable data contained in the Registrar-General's important Reports, have become of very great value to the philanthropist and the physician, from the more accurate knowledge which they impart of the fatality of certain diseases in particular localities, and during different seasons. Few subjects, in my opinion, are more instructive than the investigation of questions connected with public health, of the causes of disease, and especially of the means best adapted for their prevention and cure. It ought to be kept constantly in view, that to point out the existence of an evil, is often not only the first but the greatest step towards its removal or alleviation.

I will now proceed to offer some remarks on the State of Health noticed amongst the metropolitan population during the six months, terminating on the 28th of September in the present year; thereby furnishing a continuation of the reports which I have already published. And it affords me much satisfaction at once to state, that the late summer and autumn have been unusually healthy, even if compared with ordinary seasons, but particularly so, when contrasted with the year immediately

preceding. Throughout the second and third quarters of the present year, that is, from the 30th of last March to the 28th of September, 22,816 persons have died in London from all causes; whereas, during the parallel period of the year 1849, not fewer than 40,117 persons died from different diseases, being a diminution of 17,301 deaths, or 43·12 per cent. in the recent, compared with the previous season. Restricting the comparison, however, to the last three months of the above period, or to the quarter terminating on the 28th of September, the difference is most remarkable; 27,109 deaths having been reported in London during the months of July, August, and September of 1849, in contradistinction to 11,578 in the parallel seasons of the current year; being a decrease in the latter of 15,531 deaths, or nearly three-fifths of the previous mortality.

Diseases which have lately exhibited a Diminished Rate of Mortality. The great difference already noticed in the amount of deaths throughout the metropolis in the two periods, was chiefly owing, as is well known, to the severity of the epidemic Cholera, so fatally prevalent last year in London; but which, fortunately, has this year been of very rare occurrence, compared with the epidemic of last season, only 96 persons having died from this disease during the entire six months referred to in the present communication, instead of 13,115 in the same period of last year. The contrast is more extraordinary, if the first two weeks of the month of September in each year be compared. In 1849, cholera proved fatal to 3,708 individuals in this short period; whereas, in the parallel two weeks of September in the current year, only twelve persons died of that malady.

Diarrhœa and Dysentery, so severe in 1849, have proved, this year, much less frequent. During the second and third quarters of last year, 2,946 persons died in London from these diseases; but throughout the similar six months of the current year, the deaths from the same causes amounted only to 1,459. Of these, almost half, or 691 fatal cases, were reported during August.

Measles have also been less fatal than in 1849. During the past six months of the current year, 410 persons died of that disease, in contradistinction to 642 during the former period. Scarlatina has this season been comparatively mild, only 550 fatal cases having been reported, instead of 883 during the parallel six months of last year. If compared, however, with the same six summer and autumn months of 1848, the difference in respect of fatality is very great. No fewer than 2,376 individuals then died of scarlatina, which continued to prevail, even more intensely, during the last three months of 1848 than previously, having carried off 1,765 persons during that short period of time; hence proving a much more destructive malady than had been known in the metropolis for many years. Since that season, scarlatina has gradually declined, as indicated by the small amount of deaths now reported. Hooping-cough, another affection often fatal to young persons and children, has likewise prevailed less frequently this year than the last; 706 deaths by that complaint having been reported from the 30th of March to the 28th of September in the present year, instead of 1,167 during the same six months of 1849.

Typhus Fever, which I have elsewhere designated a good *nosometer* of public health, has likewise been of late less prevalent than previously. There is no circumstance more indicative of the salubrity or unhealthiness of places and seasons, than the amount of typhus fever prevalent amongst the inhabitants; hence it is satisfactory to state, that in the metropolis, this disease has proved less fatal than in former seasons. During the six months embraced in the present report, 900 persons have died from typhus; whereas, during the parallel period of 1849, the deaths, by the same cause, were 1,222, being 35·47 per cent., or rather above one-third more numerous than recently. On comparing the recent period with the six summer and autumnal months of 1848, the difference is still more evident; as the deaths from typhus fever which then occurred in London, amounted to 1,764, being nearly double the number (900) reported during the last two quarters.

Phthisis has likewise been the cause of death in a smaller number of persons than during last year; 3,056 individuals having died from this in London during the last six months, instead of 3,214 in the corresponding two quarters of 1849; making a decrease of about 5 per cent.

Pneumonia and Bronchitis come also within the category of diseases which have exhibited a diminished rate of mortality. Thus, during the summer and autumn of 1849, the deaths from these two pectoral complaints amounted to 2,569; whilst in the parallel six months ending the 28th of last September, only 2,227 deaths are reported, being a diminution of 342 cases, or more than one-seventh. Convulsions are reported to have proved fatal in 839 persons, during the last six months; in contradistinction to 1,028 during the same period of the year 1849; being a diminution of 189 in the number of deaths, or 22·53 per hundred. Erysipelas is sometimes a very serious disease, especially when the patients in an hospital become attacked, as it is difficult to eradicate from the institution, and often rebellious to treatment; nevertheless, it has proved less fatal recently than in former seasons. Thus, during the six months embraced in the present report, erysipelas caused death in only 168 patients; whereas during the corresponding two quarters of 1849, the number of fatal cases, by the same disease, amounted to 213, being a decrease of 45, or 26·78 per cent. in the more recent period.

Besides these illustrations, it may be mentioned, that Diseases of the Heart and Blood-vessels produced, in the aggregate, fewer casualties than last year; the comparative numbers being 896 deaths, during the recent six months, instead of 942, in the corresponding six months of the year 1849.

Diseases which have exhibited an increased rate of Mortality. Although the health of the metropolis has been generally satisfactory, throughout the whole of last summer and autumn, as shown by the statements just enunciated, several of the ordinary maladies have nevertheless manifested a different character.

Influenza has been rather more frequent during the last, than during the previous season; 45 deaths by this malady having been reported, instead of 25 in the corresponding two quarters of 1849.

Cancer has proved fatal to 457 persons during the last six months, instead of 397 during the second and third quarters of 1849.

Insanity has likewise been more fatal; 51 persons having died, instead of 41 in the parallel period of 1849.

Inflammation of the Liver also exhibits a slight increase of mortality; 107 deaths from hepatitis having been reported, instead of 96 in the previous period.

Ovarian dropsy, moreover, has been more fatal in the recent period; 35 females having fallen victims to that complaint, from the 30th of last March to the 28th of September; whereas, only 20 individuals are reported to have died from a similar cause during the parallel two quarters of 1849. In addition to the above important fact, it may be also instructive to mention, that of late years, this serious disease seems to have proved more deadly than formerly. Thus, during three years ending the 31st of December, 1841, the total deaths in London by ovarian dropsy were only 40; whereas, during the three years terminating the 31st of December, 1848, they amounted to 142, or more than treble the previous amount. These statements, indicating the recently augmented mortality by the disease in question, I have been induced now to mention, as they must be interesting to practical surgeons and pathologists. Does this increased fatality depend upon ovariotomy, and diagnosis by exploratory incisions, being now in vogue?

Diseases exhibiting an uniform rate of Mortality. Speaking generally, although diseases affecting the Kidneys and Urinary System have proved rather more fatal recently than in the previous season—the total deaths by the above causes being 296 in 1850, and 279 last year; still, some of the affections, in this division, have exhibited a nearly uniform mortality. For instance, 13 persons died of Stone in each half year; 67 died of Bright's disease during the last six months, and 65 in 1849. Diabetes proved mortal to 18 persons in the six months of 1850, in lieu of 20 carried off by the same malady during the parallel two quarters of the previous year. This however is a complaint which cannot be regarded as renal.

From Puerperal Diseases, during the six months just terminated, 200 fatal cases have been recorded, the number during the parallel six months of 1849 having been 210; thus showing a slight recent diminution. Seeing the number of births during the last two quarters was 36,604, it becomes an interesting inquiry to ascertain the ratio of deaths incident to females during, or immediately after, parturition. From the data at present attainable, it is only an approximation to the truth, that can be here enunciated; still, taking into calculation twin and triplet births, which are much less common than many persons may perhaps suppose, being in the proportion of about one twin birth in every 113 cases, it follows, that nearly one female dies in every 180 parturitions. When puerperal fever prevails epidemically in lying-in institutions, the mortality will be, in that case, augmented; but, looking at last year's experience, the above calculation is very nearly correct.[1]

[1] As an illustration of the small proportion of twin births, it may be interesting to mention, that in 1845, when 65,884 children were born in London, there were not more than 580 cases of twins, and only two instances of triplets. Of the twin

Considerable uniformity in the rate of mortality has been likewise noticed in other diseases. Apoplexy proved mortal to 618 individuals in the six months of 1850; the deaths being 612 in 1849. From Hernia 65 died in the six months of 1849, whilst the fatal cases, by the same disease, were 62 during last season. Delirium tremens was the cause of death during the past six months in 96 cases, whereas the number was 94 in the previous year. Although this dangerous disease has not varied much in respect to its mortality during the last and present year, it should be noticed that, as compared with many former periods, delirium tremens has recently greatly augmented, both in frequency and fatality, in the metropolis, as shown by the following statement. During the whole of the year 1841, 83 individuals died from this disease; in 1844, the deaths rose to 95; in 1847, they amounted to 156; and in 1849, delirium tremens proved fatal in 164 cases; the mortality being thus almost double of that in 1841. These are important facts, and deserve serious attention from medical men, as well as from the advocates of temperance. More human beings annually fall victims to this complaint, which is really disgraceful to the individual, if one might employ such an expression, than to syphilis, gout, insanity, and several other maladies. Such a fact is not creditable to the present age, nor to its much boasted civilization.

Mortality among Children. The large number of children who annually fall victims to disease in London, exhibits a feature in the mortuary reports of the metropolis, which ought to arrest the deepest attention. If nature's laws were more frequently followed,—were the proper feeding, and judicious clothing of young persons more in accordance with common sense, and with their tender constitutions,—and farther, if their physical education constituted a greater part of the duties of parents and attendants, in addition to their moral culture,—I feel assured that so large a proportion as 45 per cent. of the total deaths would not be met with among children. Of the 22,816 deaths recorded in London from all causes, during the last six months, 10,242 of the individuals who died had not yet passed their fifteenth year, many being even infants or young children, whilst 7,787 were in the prime of life, viz, from puberty to 60 years of age, and 4,657 were old people; thus

---

births, 183 mothers had two boys, 176 bore two girls, and 221, or two-fifths of all the patients, had each a boy and a girl. It is also curious, that a large proportion of the above 580 twins cases occurred in the out-parishes of the metropolis. Thus, 43 were reported from Lambeth; 34 from St. Pancras; 34 from Kensington and Chelsea; 27 from St. Marylebone; also 27 from Shoreditch; 26 from Stepney; and 22 from Islington; whilst one of the triplet births occurred in Shoreditch, the other in the London City District. The first case was the wife of a shoemaker, who had two girls and one boy; the other was the wife of a tailor, and had three girls. It will also be interesting to state, in reference to triplet births, that in all the other districts of England, out of 477,637 births in 1845, only seventeen instances of females who had three children at a time are recorded; whilst not more than two examples of quadruple births were met with in the same year throughout the whole of England; one being the wife of a cowkeeper at Croydon, who had one boy and three girls; the other case was the wife of a draper at Haslingden, in Lancashire, who bore four boys at the same accouchement. It has been alleged (and I suspect truly), that the proportion of plural births is much greater among the Irish than the native English population.

leaving only 130 cases in which the age was not stated. These facts incontrovertibly show that more children than adults die in this great metropolis, notwithstanding the often dangerous and even insalubrious character of the occupations in which the latter are engaged, and their being further exposed to many causes of disease, to which children are rarely subjected.

Several of the complaints which usually prove fatal to children, such as scarlatina, measles, hooping cough, and convulsions, having been already mentioned, it would be superfluous again to discuss these maladies. To one cause of death, however, on which I offered some remarks in my last report,[1] I would again specially call attention. I mean "the privation of breast-milk"—the natural food of infants. From this cause, not fewer than eighty-nine infants are reported to have died in London during the last six months. And when it is remembered that, during the parallel six months of 1849, the number of deaths from the same cause, amounted to 111, it is at least somewhat consolatory, that the number has thus recently decreased. Having specially adverted to the great annual mortality amongst children, in my former report, I will only now repeat, that the subject demands serious attention, as it shews that there are sources of disease affecting this interesting class of the community, which do not produce the same lethal effects upon individuals in more advanced life; notwithstanding the many influences injurious to health to which the latter are constantly exposed.

Violent Deaths. The number of persons who every year lose their lives in London by violence or accidents, is much greater than would probably at first be imagined. During the last six months, 769 individuals are reported to have died violent deaths in the metropolis, which makes one case in nearly every thirty of the whole mortality. Of the above 769 violent deaths, 268 were produced by fractures and contusions; 155 were drowned; 89 died from burns and scalds; 51 by poison; and 37 by wounds; besides other casualties, which it would be superfluous to particularise.

In reference to the subject of violent deaths, it may be interesting, although rather a digression from the immediate subject of this paper, to allude to the marked discrepancy usually noticed amongst two classes of men, in regard to their comparative liability to accidental death; I mean soldiers and sailors, not only in London, but throughout the whole of England. As it is impossible, when discussing this point, to quote recent occurrences, the peculiar facts, met with of late years, not having yet been published, I must refer to a former period, viz. 1840; which will however answer every purpose, and also sufficiently illustrate the question.

Sailors are no doubt more numerous in London than soldiers, besides being frequently changed, by arrivals and departures: yet it is curious, that only four soldiers out of about 5,000 men, including Woolwich, lost their lives by violence throughout the entire metropolitan districts, during the year 1840: one being killed by a fall, and another by a horse, whilst the causes of the remaining two deaths were not specified. On the other hand, the number of sailors within the same category,

[1] London Journal of Medicine, June 1850, p. 543.

amounted to 64; of whom 37 lost their lives by drowning. The difference is even more remarkable if the whole of England be taken into account. Only eleven soldiers died by violent means beyond London; whereas, the deaths from violence among sailors in the same districts, amounted to 282; of whom 209 were drowned. The aggregate number throughout the whole kingdom, was thus 15 soldiers and 346 sailors; of whom 226 were drowned—not at sea, it should be remembered, but in the rivers and harbours of England and Wales. Of the eleven cases of violent death among soldiers, six occurred in the counties immediately round London, two in the eastern parts of England, two in Cheshire and Lancashire, and one in Wales; the immediate causes of death being drowning in six; injuries by horses in three; falls in two; and poisoning by opium in one. The causes of the remaining three are not specified. These statements are very singular, and demonstrate the much greater safety of a soldier's life in England, compared with that of the sailor. The facts also indicate the good conduct and discipline of the British army; and I will venture to affirm, that in no other country have 30,000 military passed an entire year with the loss of only fifteen men by violence; not one of whom died either by *lead or steel*. Viewed in every way, this statement, founded on authentic documents, is highly gratifying; and it seems so different from what most persons would expect, that it has appeared deserving of being here recorded, and especially noticed.

Mortality among the Pauper Population. Amongst the 22,816 deaths registered during the six months embraced in the present narrative, nearly one-sixth, or 3,549, took place in the prisons, hospitals, workhouses, and other public eleemosynary institutions; thus shewing that 15·61 per cent of the total mortality occurred among the pauper population. It is also instructive to state, that the majority of the above patients were men, the number being 2,099, and only 1,450 women; which is more remarkable, as the lunatic asylums, comprised in this category, contain more female than male inmates.

Prisons. The prisons of London have lately exhibited a degree of health much superior to their condition during the last century. Indeed, few places appear to be more free from disease; and this doubtless arises from the sufficient and wholesome dietary, and the discipline to which the inmates are subjected, besides the diminished influence of vice and intemperance. During the last six months, only forty-four deaths have been reported from all the prisons of the metropolis; thirty-five being men, and nine women. This constitutes a very small mortality amongst so numerous a body as the London prisoners, the number of whom, according to the most accurate accounts, recently amounted to 6,113; 5,483 being males, and only 630 females, the greatest proportion of both sexes being criminals. The chief exceptions were inmates of the Queen's Bench Prison, and the debtors of Whitecross-street, in which two places, 384 prisoners were then confined. From the above data, it appears that one death occurred in every 156¼ male prisoners, and one in every 70 females. It should be also remembered, that the inmates were often changed by the committal of new offenders, and the release of those prisoners whose period of confinement had expired;

nevertheless, I believe, so low a rate of mortality will rarely be met with amongst any other class of persons. To shew the great salubrity of the London prisons, it may be stated, that among 10,015 prisoners committed to the House of Correction at Coldbath Fields, up to a very recent date, there had only occurred six deaths; being not more than one fatal case in every 1669 inmates.

One remarkable feature ought to be here especially mentioned, in reference to the metropolitan prisons. However beneficial confinement in such places may really prove to the bodily health of the inmates, it sometimes appears to produce an opposite effect upon their mental condition; particularly in those undergoing solitary or separate punishment. This baneful influence is fully established by the fact, that from two London prisons, viz., Pentonville and Millbank, where only convicted criminals are confined, 61 prisoners were sent to Bethlehem Hospital during the last ten years, who had become insane; 47 being men, and 14 women; besides four men who came from the hulks, but had previously resided in Pentonville prison. In addition to these sixty-five individuals, several male and female prisoners have been also admitted from other gaols as lunatics into Bethlehem Hospital, although to a much smaller extent. The effect of confinement in prison upon the mental faculties, is hence very decided; and it should be remembered, that the above 65 cases of insanity sent from the metropolitan prisons, and now reported, were not persons acquitted because they were insane, but prisoners actually undergoing sentence for previous crimes and misdemeanours.

Lunatic Asylums. During the last six months, the deaths in the metropolitan asylums for the insane, whose average population is about 3,527, consisting of 1,573 male and 1,954 female lunatics, amounted to 171; 96 men and 75 women; being one death in nearly every 16 male, and only one in every 26 female lunatics, during the last half year. This seems a moderate rate of mortality, especially amongst the female lunatics, who are also the most numerous. These facts are the more interesting, as they prove the correctness of an observation which I have elsewhere made, and which was based upon extensive data, that mania, although more common among women, is in them more curable and less fatal than among men. Female maniacs, moreover, are likely to attain greater longevity than male lunatics.

Lying-in Hospitals. At lying-in hospitals, which sometimes present a very high degree of mortality, the number of deaths has been comparatively small during the last six months; only 18 fatal cases of child-birth having occurred in the four public establishments of that kind in London, most of which happened during the first quarter of that period. To the 18 deaths of mothers, must be added those of 12 children.

General Hospitals. From the eleven General Hospitals of the metropolis, there has been reported nearly one-third of the total number of deaths referred to in a previous paragraph, as forming the gross mortality amongst the pauper population. The actual number of deaths was 1,051, during the last six months. They may be thus classified, to enable readers to form their own opinions.

STATISTICAL TABLE OF DEATHS IN THE ELEVEN GENERAL HOSPITALS OF LONDON DURING SIX MONTHS TERMINATING SEPTEMBER 28, 1850.
(COMPILED BY DR. WEBSTER.)

Hospital.	Number of Beds.	Total Deaths.	Ratio of Deaths to Beds.
St. Bartholomew's	580	180	1 to 3¼
Guy's	580	164	1 to 3½
St. Thomas's	487	115	1 to 4¼
London	320	120	1 to 2⅔
St. George's	320	106	1 to 3
Middlesex	285	86	1 to 3 1-5
Westminster	175	78	1 to 2¼
Free	140	22	1 to 6⅓
King's College	120	66	1 to 1 8-10
Charing Cross	110	36	1 to 3 1-18
University College	106	78	1 to 1⅓
Totals	3223	1051	1 to 3 1-14

According to the above statement, some very useful data, both in reference to the mortality met with amongst a certain class of the community, and also to the amount of accommodation available in Public General Hospitals for their treatment during sickness, may be now brought under review. Few persons would perhaps believe, that in a population of 2,300,000, there are at present only 3,223 beds for the indigent sick in all the General Hospitals of London, exclusive of the special institutions for particular diseases, such as fever, small-pox, and consumption; but such is the fact. Many of the inmates of these *charitable* establishments are not always of the indigent classes, but persons sometimes in easy circumstances, or domestic servants from the houses of governors, and even of noblemen, and also petty shopkeepers; nay, patients sent from the country, who thereby incur expense. Hence, it appears, that the actual sick poor of London are not the exclusive participants of the benefits of these institutions. Taking the matter nevertheless as it exists, and looking only at the data contained in the table now supplied, and which has been compiled with every desire to ensure accuracy, the following inferences may be legitimately deduced: 1st. One death in every 21·75 of the total mortality throughout London, or 4·60 per cent., took place in the eleven general hospitals, during the last six months. 2nd. One patient died for nearly every three beds, speaking in the aggregate. 3rd. The highest rate of mortality generally occurred in the smallest hospitals. 4th. With one exception, the lowest comparative ratio of deaths was observed in the large or more populous insti tutions. 5th. The fewest deaths, in reference to the published number of beds, was reported from the Free Hospital; and 6th. The largest comparative mortality, according to the same calculation, occurred at University College Hospital.

On the other hand, when comparing one hospital with another, it is curious to observe, that the mortality was nearly the same at St. Bartholomew's and Guy's, the two largest institutions of the kind, and having each the same number of beds, viz., 580. Again, at St. George's and the London hospitals, each having 320 beds, one being situated at the west end of London, the other at the east, where an immense number of serious accidents constantly occur, and certainly very many more

than in the neighbourhood of Piccadilly, there is not much difference in the rate of mortality. This is, however, in favour of the latter hospital, although still inferior to the Middlesex, St. Bartholomew's, and Guy's, but especially to St. Thomas's Hospital, where the ratio of mortality was less than at any other similar institution, with the sole exceptof the Free Hospital, as previously stated. I am fully aware that these calculations must not be taken as absolutely free from all fallacy, since the admissions of patients may be more numerous at one establishment than at another. But I think that this argument, if it has any force, would rather militate against the smaller and more modern hospitals, to which letters of recommendation from a governor, unless for accidents, are often required to ensure the reception of an in-patient; while at the two ancient Royal Hospitals of the city, and at Guy's, where the rate of mortality has been found to be lower, the facility of admission is greater, and the applications, consequently, likely to be more numerous. The subject here mooted, is both so important and instructive, that it deserves further inquiry; indeed, it is solely with that object I have now made these imperfect remarks, and based them upon the numbers contained in the average table; which, I believe, is the first ever compiled in illustration of the results obtained at the eleven general hospitals of London, viewed comparatively.[1]

Before taking leave of the London Hospitals and their recent mortality, I must remark, that few documents would prove more useful to the medical profession, than a well-arranged yet succinct general statement of all the facts and agenda noted in each separate institution, combined and classified in an uniform, systematic, but not too complex a manner. If from the country hospitals and infirmaries, as well as from the metropolitan, similar statements were annually made, the accumulated facts would materially tend to dissipate many erroneous opinions and speculative doctrines, which could not then withstand the counteracting influence of sound practical experience, supported by, and based upon, numerous facts verified by repeated observation. General hospitals ought to follow the excellent examples now set by many lunatic asylums; the authorities of which annually publish a report of their proceedings, both lay and professional, accompanied by numerous, varied, and often useful tables respecting the patients under treatment, the character of their particular maladies, the results obtained, and often highly important statistical data, besides other matters of much interest and practical value. Every hospital and infirmary throughout the country should do this; and if some master mind would take the whole facts thus supplied, and arrange them in a lucid and instructive manner, the great desideratum adverted to, would be effectually supplied. If documents of the kind described had been regularly issued by the authorities of the different London hospitals, detailing the chief *res gestæ* when the Potts, the Hunters, the Baillies, the Abernethys, and the Coopers were attached to these institutions, the facts collected by such eminent men would be invaluable to the modern practitioner. Nevertheless, were

[1] The basis upon which Dr. Webster's conclusions are founded, as to the mortality of the different hospitals, is open to some objection; but his remarks are likely to be useful, by inducing the authorities to afford better data. In the mean time, we refer to our report of the discussion at the Society where Dr. Webster's paper was read. EDITORS.

the plan carried out for the future, particularly whilst there are many distinguished physicians and surgeons on the medical staff of those establishments, great benefits would thus accrue, not only to all now in practice, or entering the profession, but to posterity. Let us take, as an illustration, hernia or fractures, about which considerable difference of opinion sometimes prevails in reference to the treatment. Could the surgeon easily refer to a large array of cases reported by the ablest practitioners of ancient and recent times, much of the present discrepancy of opinion on such a subject must give way before the weight of evidence derived from such sources. The treatment of medical diseases, likewise the value of particular remedies, the symptoms characterizing epidemics, the types of even ordinary maladies, the rate of mortality observed, and many other interesting questions, would be all greatly elucidated by the system here suggested. I therefore hope the parties, who have the power, will take the subject and plan now suggested into consideration, and by an united effort remove every difficulty which might retard its realisation. It gives me pleasure here to state that the authorities of some of the great metropolitan hospitals have recently ordered, and secured for the future, faithful records of all the cases admitted within their walls, which I hope will be published.

Edinburgh and Glasgow, however, deserve in this respect greater honour, as from their very institution they set this noble example. In the Edinburgh Infirmary, clinical reports are preserved from the first opening of the hospital; and indeed it was from the clinical teaching within the infirmary, that the Edinburgh School of Medicine arose: that school so long pre-eminent and still illustrious in Europe. The usefulness of a long series of such records is well illustrated by Dr. James A. Lawrie's paper on the "*Results of Amputations*," published in the *London Medical Gazette* for 1840, which contains an analysis of all the amputations performed in the Glasgow Infirmary from its institution in 1794 to 1839: as well as by the truly valuable and elaborate series of Essays entitled "*Contributions to the Statistics of Injuries of the Head*" published by the same accomplished surgeon, in conjunction with Dr. Alexander King, in the annual volumes of the *Edinburgh Monthly Journal* for 1843 and 1844. These Essays embrace an analysis of the nature and the treatment of all the cases of injury of the head admitted into the Glasgow Infirmary from 1794 to 1841. The pathological and statistical records of the Edinburgh Infirmary, I would just add, were placed upon a nearly perfect system by the late lamented Dr. John Reid; and the same afterwards has been successively maintained by his industrious and talented successors, Dr. T. B. Peacock, Dr. Hughes Bennett, and Dr. W. T. Gairdner. If great scientific treasures have been accumulated by the good order prevailing in two comparatively small and poor northern hospitals, what are we not entitled to demand from the richly-endowed and vast establishments of Guy, St. Thomas, and St. Bartholomew?[1]

Excess of Births over Deaths. Similar to the facts stated in my

[1] I would here mention with pleasure, that good statistical and clinical registers have been kept for several years past in the Hospitals of Nottingham and Oxford. I have also reason to believe, that the same laudable system is followed in other provincial hospitals.

former report, a considerable excess of births over deaths, amounting to 13,542, has taken place during the last six months. The increase reported in the first three months of the above period was 7,064; but in the quarter ending the 28th of last September, it was only 6,478. This arose, both from the mortality being then rather greater by 568 deaths than the preceding quarter, and also from the circumstance that more children were born during the months of April, May, and June, than in the subsequent season. This result is consistent with ordinary experience, as births are always more numerous in London during the early months, and spring of the year, than afterwards. The excess of births over deaths in the metropolitan districts, referred to in my previous report, having been 10,128 in the six months, it thus appears, that the total excess has been 23,670 throughout London during the past year. This furnishes one cause, amongst others, of the constant increase of the enormous population now resident in the British metropolis.

Atmospheric Influence. During the whole six months embraced in this report, the weather, although rather cold for the season, was seldom marked, with only a few exceptions, by great fluctuations of temperature. The greatest variation was on the 1st of June, when the thermometer indicated 78·1 as the highest degree of heat, and fell to 43·8 at night; thus making a difference of more than 34 degrees. The above was, however, a rare instance, the variations throughout the entire period being very moderate, or, to speak generally, 19 of the 26 weeks now referred to, were characterized by an unusual equality of temperature, both by day and night; whilst only 7 weeks of the same period indicated any considerable fluctuations, chiefly in the months of May and June. The temperature was never very high at any period, having only six times exceeded 80 degrees during the first three months; and on only seven days during the last quarter. The highest noticed throughout the whole period, was 87° on the 16th of July: during the night of that day, however, it fell to 60·3.

The medium pressure of the atmosphere was somewhat low, during the months of April and May, being frequently under 29½ inches, but on one occasion only, viz., the 4th of April, was it below 29 inches. During the second quarter, the barometer ranged higher than in the former period, having very seldom fallen under 29½ inches. Indeed, it was generally near, or even above, 30 inches, especially throughout the last days of August and the greater part of September. Thus, during twenty days continuously, ending the 17th of September, which, it should be remembered, included the days parallel to those which I have called the "*black week*" of 1849, the pressure of the atmosphere was always high, never being under 30 inches, and sometimes above 30·25. This makes the atmospheric pressure to range, on an average, about four-tenths of an inch higher than in the similar weeks of 1849; the wind being at the same time generally north-west or north-east, having also considerable movements, whilst the temperature was low, but not variable.

During this period likewise, the greatest difference betwixt the day and night temperature was 27, although sometimes the alternation was only 14·13, and occasionally only 8 degrees. Electricity seemed often positive; notwithstanding the weather continued dry, the sky was fre-

quently overcast. These particulars may be well contrasted with the description of the atmospheric phenomena at the same period of 1849, and given in my last year's report, when London almost resembled, as it were, a pest-house.

At that period, the atmosphere produced an oppressive and ungenial feeling upon the human frame; the sky was always hazy, and, at times, appeared like a thick mist, the air being generally very dry; scarcely any wind prevailed, and when it did, the direction was often south-west or southerly, with diverging currents, while this year it was north-west or north-east, blowing more freely, and without diverging currents. Farther, the most remarkable feature observed in September 1849, in reference to the atmosphere, was the frequent and daily very extensive fluctuations exhibited by the thermometer, the alternations being sometimes so high as 30 degrees, between the warmth of the day and night-time; whilst the lowest temperature, in the previous month of August, was 42, the highest being 82, thus giving a difference of 40 degrees. These are instructive phenomena, and may in part account for the great discrepancy noticed in the two seasons; 8,844 persons having died in London during the three weeks ending the 15th of September, 1849; whereas, during the parallel three weeks, ending the 14th of September, 1850, only 2,710 deaths are recorded; thus making a diminution of 6,134 in the short space of twenty-one days, or to less than one-third of the previous mortality, in favour of the recent season.

Besides the peculiar features just described, as characterizing the recent healthy season, it should be likewise mentioned, that the sky lately was seldom clear or cloudless, being frequently overcast; the wind was generally west or westerly, north or north-easterly, but very rarely southerly. The weather was not dry, unless in the early part of September, since frequent showers prevailed; electricity was often positive; whilst the summer and autumn of 1849, it should be always recollected, were the driest known for upwards of thirty years. The more recent season shewed, as already stated, greater equality in temperature, the movement of the wind being quicker, and from a salubrious quarter; whilst the amount of electricity seemed more apparent, and was oftener positive than in the previous year.

I am fully aware of the difficulty of making exact observations respecting the influence of atmospheric phenomena, in the production and modification of diseases, or in deducing therefrom correct conclusions; but being anxious to bring this important subject before the profession, in order to move other and more capable observers to pursue the inquiry, I have here, as in previous reports, given the result of my own limited experience. In this, as in every other scientific investigation, correct knowledge can only be obtained by repeated and numerous observations, carefully made by various individuals. As an illustration of the influence which even changes of temperature frequently exert upon the human frame, it is only necessary to observe, that a sudden fall of one or two degrees of the thermometer, especially in the night-time, will cause death in many patients, who otherwise might struggle on a little longer, were the temperature less variable. Again, every person knows the effect of the east wind in this country; the bis and mistral in the south of France; the bitter piercing tramontano of Rome; the sirocco of South Italy; the solano in Spain; besides the cold winds from Siberia;

the hot blasts from the sandy deserts of Africa; or the north-west winds that blow from the marshy Pampas of South America, and which often prove injurious to health, even in the much-lauded climate—as it is so named—of Buenos Ayres. In London, the east and north-easterly winds are dry and insalubrious; the south and south-westerly, humid and unhealthy; the north is often followed by inflammatory diseases, whereas the west and north-westerly breezes, although usually accompanied by dry and clear weather, are much more healthy and beneficial; both to mind and body, than winds blowing from any other quarter of the hemisphere.

London not Insalubrious as a Place of Residence. Many persons are in the habit of visiting Bath, Cheltenham, Brighton, Tonbridge, and other places of repute in public estimation, under the notion that London is less salubrious, as a residence, than these fashionable localities. Not intending to examine the comparative merits of the different places now named, I shall confine my present remarks to the metropolis, which appears, from the facts stated in previous pages, to have been recently by no means insalubrious. Living in London is not *per se* unhealthy; it is the manner of life followed by those who dwell in town which so often proves inimical to the health of its inhabitants. If the dictates of nature were more frequently followed, and if common sense, aided by experience, were oftener made the rule of conduct proper to be pursued by individuals, in regard to everything connected with health and hygienic measures, much less sickness would prevail; whilst the strength of our physical frame, and the condition of our intellectual faculties, would be both greatly improved. More restless spirits or novelty seekers, sometimes others as a mere pretext, go abroad in search of health, or thus endeavour to avoid the variable climate of England, which they, from sheer ignorance, call unhealthy. But there can be no doubt as to the superiority of London as a healthy place of residence, when compared with almost any metropolis in Europe, or even any large town on the continent. The superiority over other places, or the reverse, in a different point of view, is not now the question; but simply the proved salubrity of the capital of Britain as a residence. Thus, in London, the annual ratio of deaths amongst the whole community, is one in every 42 inhabitants; in Manchester, one in 26·5; in Edinburgh, one in 25·6; where, however, the deaths, in 1847, even reached the frightful proportion of one fatal case in every 20·9 of the population, being chiefly from the great fatality of typhus fever. In Liverpool, the ratio is, on an average, one death in every 23·6 of the inhabitants; whilst in Glasgow, the mortality is so high as one in 21·9 of the population, or double that of London. On the continent of Europe, the difference is equally remarkable; seeing that in Berlin, built in a sandy plain on the banks of the sluggish Spree, the annual rate of mortality is one in every 34 inhabitants; in Dresden, one in 31·27; in Palermo, one in 31; in Paris, one in 30·50; in Naples, one in 28; in Brussels, one in 26; in Rome—far famed as a refuge, but often a grave for invalids, one in 25; in Amsterdam, which is constructed on piles, and intersected by canals full of stagnant water, one in 24; and in Vienna, it is one in 22 of the entire population; which, doubtless, is owing, as at Glasgow, in many respects, to the low and damp

situation of the city, from being near the banks of a large river like the Danube; whilst there is often a burning sun during summer, alternating with storms; and in winter, frequently, cold winds that blow from the neighbouring Carpathian mountains.

Besides the several capitals just named, I may also mention Constantinople, so much lauded for its Golden Horn, splendid Bosphorus, and its magnificent surrounding country, as by no means a salubrious residence. This arises, in addition to local influences inimical to health, from the great and sudden variations of temperature, even to the extent of 30 degrees, which often prevail between mid-day and sunset; being sometimes even greater at night. Besides this powerful cause of disease, the *Kara Yell*, (or black wind,) that blows from the north or north-east, and so sweeps down from the Balkan range, or from over the Black Sea, having been previously rendered as cold as ice by passing over the Caucasus mountains, produces severe effects upon the health of the inhabitants of the Turkish metropolis, in which plague and pestilence also prevail.

In North America, where the term of human life is shorter than in Europe, and the "go-a-head" system applies to animal as well as commercial existence, the diminished duration of life is even more obvious. In New York, for example, where a person is almost roasted in summer and frozen during winter, the ratio is, on an average, one death in every 23 inhabitants; whilst severe epidemics and even yellow fever are not uncommon, when the mortality is much augmented. But, however unhealthy New York may appear, it is almost an Elysium in comparison with New Orleans, which seems the pest-house, or Sierra Leone of the United States. In this city, situated on a lower level than one of the largest rivers in the universe, the Mississippi, which is only kept from submerging the whole district by immense dykes and artificial embankments, the gross mortality in 1849 was one death in every 10·66 of the inhabitants. Subtracting, however, the 3,548 fatal cases of Cholera which occurred last year, the mortality from ordinary diseases still reached one in 16·68; but as that epidemic malady always diminishes the amount of deaths from other causes, it will be much nearer the mark to reckon the mortality of New Orleans about one in 14; or treble that of London. In fact, the former city may be almost likened to an hospital for the sick; because, where so many individuals die annually, those labouring under disease must be always very numerous; and it thus appears probable, that the entire population are swept away and replaced every fourteen or fifteen years. Such destruction of human life is unheard of throughout Europe; whilst in England, the ordinary results are very different, even in the most populous, worst drained, or filthiest locality in any part of the whole empire.

Situated on rather elevated ground, upon a gravelly foundation, with frequent declivities, London is by no means unfavourably placed in respect of salubrity, especially on the north bank of the Thames, and towards the west; the southern districts are, however, very different. Although favoured by many natural advantages, the metropolis has been, nevertheless, deteriorated in some respects as a healthy residence by various objectionable proceedings, into which I will not now again enter at any length, having alluded to the subject in former reports. Still, when it is remembered that the river Thames, otherwise so im-

portant, has become the "Cloaca Maxima" of London, and that it carries off the exuviæ of its immense population, it is marvellous that matters are not much worse. The innumerable nuisances which are so often created, prove also most injurious to the public health. Some of these might be mentioned; as, for instance, the manufactory of artificial manure close by the Spitalfields workhouse, containing 400 children and a few paupers. Here bullock's blood and night soil were recently desiccated by the dry heat of a kiln, thereby causing a most powerful stench, which produced severe typhoid fever and other diseases of an intractable form. Again, in the "Potteries" near Kensington, 3,000 pigs were kept: and the process of fat boiling was also carried on so extensively, that the atmosphere became tainted for half a mile round; whilst the hovels for the inhabitants could scarcely have been surpassed for filth and misery by any thing known in Ireland. But even in aristocratic neighbourhoods, the best means to improve the salubrity of a district are not only neglected, but schemes are occasionally proposed which would have an opposite and injurious tendency. The parks—justly called the lungs of London,—St. James's and Kensington Gardens, for example, are encumbered with trees, whilst further additions are sometimes made injudiciously, so that free ventilation is interrupted, and damp engendered in localities, where the light of the sun and the winds of heaven ought more freely and constantly to penetrate.[1] Besides neglecting such matters, it was actually intended, in the summer of 1849, to spread over the surface of Hyde Park the filthy contents of the great common sewer which passes through its centre, in order, it was said, to have more grass for the cows there grazing, the scheming projectors never thinking of the lungs of those Londoners who might come here with the intention of breathing the pure north-western breeze, but, in reality, to sniff the mephitic exhalations produced by such contemplated irrigations. Fortunately, a strong representation in the proper quarter prevented the proposed abomination, just when all the machinery was completed, so that the absurd proposal was never carried forward; although a memento still remains of the *original idea*, in the shape of a huge iron pump with a large handle, which now points towards the field of its projected, but hitherto abortive, operations.

I will now proceed to make a few observations on some circumstances, the judicious or improper application of which materially influence the health of individuals, and hence of communities. I allude to, 1. Food; 2. Clothing; 3. Habits or Customs; and 4, Bodily Exercise.

Food. Although many individuals in London may sometimes not have sufficient food for proper nourishment to support their physical frame, others exist who would enjoy often much better health, were they more careful in regard to dietary. This truth particularly applies to children and persons of sedentary habits. The quantity of animal food which many of these parties consume, is far beyond the requirements of nature; hence arise stomach complaints, visceral congestions, and, in old people, apoplexies, paralysis, with other maladies occasioned by

[1] A great improvement would be effected, if the high wall on the north side of Kensington Gardens were replaced by an iron railing, so that the wind might blow freely through the trees to dry the gravel walks and grass, the dampness of which greatly diminishes the pleasantness and salubrity of this promenade.

their full habit of body, and from their blood being too much animalised. Even when of good quality, and taken in proper quantity, food often proves prejudicial to health by improper and imperfect cooking; acting as a very common cause of dyspeptic complaints, which are so frequent in this country. All kinds of provisions, but especially animal food, are generally of much better quality in London than elsewhere; but, being often injudiciously cooked and badly prepared for digestion, they are not so beneficial as they would otherwise prove. Much attention is given in England to the rearing of animals as food for the inhabitants; and societies exist, by whom prizes are awarded to the producers of fat pigs and overgrown oxen; but no rewards are ever given, or public encouragement held out, to teach persons how to cook properly and economically. This is a great desideratum. Were more attention generally given to the manner of preparing even ordinary articles of diet (especially for young and debilitated persons), better bodily health and greater mental activity would be ensured.

The victuals and beverages best adapted for individuals, vary according to their constitutions and occupations; but it may be stated as a general rule, that the man who is much engaged with bodily labour in the open air, requires more nutriment than an intellectual person of sedentary habits.

Clothing. Many persons, but especially children and females, suffer in health from inattention to covering their bodies properly and equally. Bare necks in females, uncovered arms, legs, and throats in children, prove always most hazardous to health, and, along with other obvious causes, materially contribute to the larger amount of sickness and death which occurs amongst these two classes of persons than among adults. The partial and improper mode of clothing the susceptible physical frames of children, is sometimes attempted to be justified by the most absurd of all reasons, that their constitutions will thereby be hardened. Such a proceeding does certainly try the strength of their powers of resisting disease; but, although some may escape unscathed, many fall a sacrifice.

The system of tight lacing in females, which fashion sanctions, although reason and experience strongly condemn, likewise proves frequently detrimental to health, by impeding the free action of the lungs and heart; whilst the equally important abdominal organs,—the liver, stomach, and other viscera,—are thereby displaced, and even forced down upon the pelvis. This is not an exaggerated, but a true picture. Such distortions of the graceful forms of the fairest portion of creation, must fill every admirer of the beautiful in symmetry with distress and astonishment. If Cleomenes, the sculptor of the Venus de Medici, if Pheidias, Praxiteles, or any of the great Grecian statuaries, whose works of art have been the admiration of every succeeding age, were to revisit the earth, and frequent the fashionable European world of 1850, with its boasted civilization, they would indeed be astounded!

Unhealthy Habits and Customs. The middle and upper classes in Great Britain are decidedly much more temperate in their habits than formerly; and instances of intoxication are now very rare exceptions. But among the lower ranks, and even among the very poor, intemper-

ance is too often met with, as shewn by the number of well-frequented gin-palaces. The fiery spirit there imbibed acts as a frequent and powerful cause of disease in the physical frame, and also, too often proves destructive to the mental faculties.

But although intemperance in spirituous liquors be almost unknown in certain ranks, a vice appears to have taken its place, which I think as great an abomination, and equally destructive to health, namely, tobacco-smoking, especially amongst the younger portion of the male population. Dyspepsia, nervousness, paralysis, and madness, may be confidently enumerated as some of the evil consequences produced by the use of this narcotic and poisonous weed. Many medical practitioners in this country know well, that the health and constitution of persons are frequently injured by smoking tobacco. In North America, also, the subject has occupied the attention of several physicians, who have written against this habit, as well as against the vice of intemperance by ardent spirits. Indeed, insanity has been so often traced to the operation of tobacco, that it is now one of the recognized causes, like opium and ardent spirits, of that severe malady; and it has been prohibited in several American lunatic asylums. How men of intellect and education should ever be induced to adopt this filthy, health-destroying, and vulgar custom, so common amongst cab-men and pot-house frequenters, is to me astonishing. In this, however, as in other cases, fashion and example prove, unfortunately, too powerful against reason and experience.

Another injurious custom, which prevails chiefly among females and children in the middle and upper ranks, deserves also some notice. I allude to the greater consumption of tea at present, than formerly, especially at unseasonable hours, and when the stomach is empty; because an infusion of tea, and still more so if made with green, then acts more powerfully upon the nervous system. The practice of taking such a beverage, which acts upon the nervous and circulating systems of individuals, an hour or two before dinner, and which has recently become fashionable amongst ladies, is highly prejudicial to health, however grateful it may be to the palate at the time. Like tobacco-smoking amongst men, or opium inebriation, so common in Turkey and China, the practice of drinking tea in the manner described should never be sanctioned. At breakfast, when solid food is also taken, the effect is different, as digestion is then promoted, and any deleterious effect which tea might otherwise produce upon the nervous system is materially counteracted. Nevertheless, as the physiological action of this aromatic leaf is that of a nervous excitant and cordial, it hence produces various forms of neuralgic pains, affections of the stomach, with other disorders of the viscera, which often baffle all treatment, unless the cause now adverted to be removed.

However injurious tea may thus sometimes prove to adult persons, it becomes in a higher degree detrimental to children, and young people, from exciting their more susceptible nervous and cerebral systems. When taken habitually under such circumstances, it excites and renders irritable their physical constitution, by unduly developing the cerebral structure and its functions; hence, I consider, this beverage should be put almost in the same category with tobacco, opium, ardent

spirits, or wine, and ought never to be allowed to very young individuals, unless as a medicine.

Exercise. Many persons in London, as elsewhere, have plenty and frequently more than sufficient muscular movement that might be called exercise, in one sense of the expression; but unfortunately, being often in confined or unhealthy localities, and sometimes when employed in deleterious trades or occupations, their exertions become toil and exhausting labour. In the metropolis, although many individuals are obliged to work to procure daily bread, others pass their physical if not moral existence in indolence, which becomes doubly detrimental to health, if accompanied by luxurious living and repletion. Similar consequences also ensue where the mind is exhausted or long kept in a state of tension, and especially if the party breathe an impure, confined atmosphere. Indeed, numbers may be met with whose general health and mental vigour would be much improved, were they to take more bodily exercise, and be oftener in the open air. Fewer dyspeptic and bodily ailments would prevail, if the above useful precept were followed.

Allusion has been already made to the public parks of London, which are denominated the lungs of the metropolis. The expression is correct, although figurative; but it is astonishing how very little practical advantage is taken of the privilege which they afford to the inhabitants of breathing their pure breezes which, especially in the morning, are so conducive to health, as the atmosphere is then untainted by dust or smoke. A walk before breakfast in any of these promenades, will at once establish the truth of this remark, and show the inactive habits of the adjacent neighbourhood, especially of the younger and female part of the population. This neglect conduces to the greater amount of sickness and impaired health noticed amongst them, contrasted with that of the male portion of the community. Undoubtedly, the human frame may have both too little, as well as too much bodily exertion. In this, as in diet, extremes should be always avoided, since to no point more than to either of the above questions is the well-known and truly philosophical axiom, "*in medio tutissimus ibis*", in a higher degree applicable. To this it may be also added, that as the physical constitution of man often wastes from the want of sufficient muscular movement, so will the nervous organization, on other occasions, become exhausted or worn out by excessive toil, as well as from too great mental excitement.

24, Brook Street, Grosvenor Square, November 1850.

ON THE EXISTING STATE OF OUR KNOWLEDGE OF VACCINATION AND REVACCINATION, AS PREVENTIVE OF SMALL-POX.

By ALEXANDER KNOX, M.D., Physician to the Dispensary, Strangford, County Down, Ireland.

(Concluded from page 1051.*)*

An argument, derived from the alleged composition of the lymph, might have been advanced, in confirmation of the identity of the Vaccine and Variolous Diseases, but it has been designedly omitted as premature, until the existence of the phenomena, said to be revealed by the microscope, shall have been confirmed by repeated and careful examination. This part of the subject would, however, be incomplete, without a passing notice of the very interesting observations contributed by Mr. E. Oke Spooner, to the July number (1850) of the *Provincial Medical and Surgical Journal*, p. 367. The purport of that gentleman's views will, however, be best explained in his own words.

"If we examine the Cow-pock and the Small-pox microscopically, as I have done very carefully in every stage, we find that the essential character consists of a number of minute cells, not exceeding the 10,000th part of an inch in diameter, being about one-fourth smaller than the globules of the blood, containing within their circumference many still more minute nuclei, and presenting beyond their circumference bud-like cells, of the same size and character as those contained in the circle. They exactly resemble in everything, except the size, the globules of the yeast plant, the *Torula cerevisiæ*."

In conclusion, the leading phenomena of the three forms of Small-pox may be thus grouped with reference to their identity.

NATURAL SMALL-POX.	INOCULATED SMALL-POX.	VACCINE SMALL-POX.
General symptoms usually severe.	Usually mild.	Almost invariably mild.
Primary fever, may be typhoid, more usually inflammatory, declining about the fifth day.	No primary fever.	No primary fever.
Eruption of papulæ on the third day, completed on the fourth; papulæ generally numerous.	Minute papulæ on the third day—generally few in number, and sometimes confined to the puncture or its locality.	Minute inflamed papula on the fourth day; the eruption, with rare exceptions, confined to the point of operation.
Papulæ vesicular on the fifth day, and containing pellucid lymph.	Vesicular, with clear lymph on the fourth day.	Vesicle on the fifth day, containing clear lymph.
Vesicles depressed in the centre.	Vesicles depressed in the centre.	Vesicle depressed in the centre.
Redness around the areola, the papulæ assuming a deeper hue, as the pustules ripen.	Pain of axilla about the sixth day; areola on the ninth or tenth day. Fever, sometimes severe, about the eighth day.	Pain of the arm, and sometimes of the axilla, about the eighth or ninth day.
Vesicles assume the form of distinct opaque pustules, either spherical or acumin-	By the tenth day, the primary pustule is full of matter.	Areola on the eighth or ninth day. Fever slight, sometimes inap-

NATURAL SMALL-POX.	INOCULATED SMALL-POX.	VACCINE SMALL-POX.
ated, about the eighth day, and contain sero-purulent matter, attaining the maximum size of a pea about the eleventh day, when secondary fever occurs.	No secondary fever.	preciable, about the eighth or ninth day. No secondary fever.
The pustules break and scab about the twelfth day, and the crusts fall off in a few days more.	The primary pustule scabs about the fourteenth day; and by the end of the third week the disease disappears.	Scabbing takes place about the twelfth or thirteenth day, and the crust falls off about the end of the third week.
Pustules leave, when severe, permanent scars.	Primary pustule, and the secondary pustules, when severe, leave permanent cicatrices.	Vesicle usually leaves a permanent striated cicatrix.

d. Evidence in favour of the protective influence of Vaccination. This is almost universally prevalent, even up to the present day. The doctrines of Jenner have been advocated, to a greater or less extent, by Baron, Thomson, Good, Gregory, Watson, Alison, and a host of other writers of the first celebrity in these kingdoms, as well as, on the continents of Europe and America, by many of the most eminent medical authorities, to whom we have not space even to allude. Amongst others, Berthollet, Percy, and Hallé, have discussed the subject with great force and precision, in an article published by the French Imperial Institute. The united opinions of such men unquestionably offer the strongest presumption in favour of Jenner's discovery; but the actual extent to which protection is imparted by Cow-pock, is rather a question of fact than of opinion, and is only to be determined, to the satisfaction of the sceptical, by a rigid inquiry into the actual results, and the conclusions fairly deducible from them.

Evidence as to the actual results of Vaccination is the most satisfactory and, after all, the only conclusive method of determining the true value of Vaccination. The general testimony, in favour of the protective influence, either absolute or partial, of Vaccine Inoculation, is still, as we have seen, all but universal; for, even among the many observers who now demur to the unqualified doctrines of Jenner, Baron, and others, there are very few who do not admit, that immunity to a certain degree, and for a limited period, is imparted by the operation. The proposition, however, that it confers absolute protection on all persons ever after, is now admitted, on all hands, to be untenable; but it is the belief of a great many, that where the casual disease occurs after Small-pox, it usually displays itself in a greatly ameliorated shape, which may thus be briefly described.

Modified Small-pox. A secondary attack of Small-pox may occur after Inoculation or Vaccination, or even after a primary attack of the casual disease. The consecutive malady, in rare instances, runs through its course with unabated severity, and may even prove fatal; but, in a vast majority of cases, it exhibits itself in a very mild form. In some peculiar constitutions also, this ameliorated type of the disorder occurs primarily, although the system has not been protected by having previously passed through the disease in any form. The preliminary symptoms and primary fever of the modified disorder differ, however,

in no respect from the first stage of unmodified Small-pox, being equally severe until the appearance of the eruption, when the ameliorating influence, especially of Vaccination, at once becomes evident. The constitutional disturbance rapidly subsides, and the papulæ, usually, though not invariably, limited both in point of number and extent, are confined principally to the face and breast. The pocks, or a portion of them, may, in some cases, pursue their ordinary course; but they more usually moderate by the fifth or sixth day, and rapidly dry up, and many of them die away, without coming to maturity at all, exhibiting neither the usual central depression, nor the presence of purulent matter. Meanwhile, the attendant indisposition is very slight, the appetite perhaps unimpaired, and the patient free from that secondary fever, with all its frightful consequences, which render the unmodified disease so terrible. No permanent scar is usually left by the pocks, the site of which is, however, marked by temporary brown discolorations of the skin. We are, therefore, amply justified in stating, that if the only result of Vaccination had been to substitute this mild disease for natural Small-pox, the value of Jenner's discovery could scarcely be over-rated, even if it had failed to produce absolute protection in a single case. Small-pox in the modified form was termed by the elder writers Varicella, and this appellation, with the adjunct *variolodes*, to distinguish it from chicken-pox, was retained by Dr. George Gregory; but its application to any form of Small-pox may lead to confusion, and had better be abandoned by all who do not look on the diseases mentioned as essentially the same. This, however, is a long disputed point, not yet perhaps conclusively determined, but which must be passed by for the present.

It is obvious, that in attempting to fix the true protective value of Cow-pock according to existing information, the correctness of our conclusions must depend on the assumption, that the primary Vaccination has not only apparently, but really, produced its full effect on the system. The value of any inferences arising out of the extensive Revaccinations in the Prussian army, and elsewhere, evidently hinges on this point, and it therefore becomes a necessary preliminary to examine the various alleged tests of effective Vaccination, which may be enumerated as follow: Bryce's test; the cicatrix left by the Primary Vesicle; Variolous Inoculation, and Revaccination.

Mr. Bryce's well known test of the disease having affected the system was this: he performed a second Vaccination, at the end of the fifth or beginning of the sixth day, from the date of the first operation. The vesicle, produced by the second Vaccination, was found to be not more than one-fourth of the normal size, and the areola was equally diminished, being also accelerated in its progress, so as to arrive at maturity, and again to decline, at nearly the same period as the affection depending on the primary operation. This test was not held to be of much consequence by Jenner; and Gregory objects to it, that although it shows the constitutional influence to have been excited, it does not determine whether in a sufficient degree to secure the system, and he justly looks on it as being absolutely nugatory, as a test of the stability of vaccine protection in after-life.

By many practitioners, a perfect cicatrix left after the primary operation, has been considered as a certain test that the protective influence

has been duly imparted to the system. The proper characteristics of this cicatrix are stated to be, permanency and a diameter of about rather less than half an inch, its surface being striated, and marked with six or eight slight indentations, corresponding to the cells of which the vesicle was composed. As far, however, as the question is to be determined by the investigations of the Wirtemberg physicians, it does not appear that the state of the cicatrix can be relied on to determine whether, and how far, the system is protected, either by the primary operation, or by Revaccination. Genuine pustules may leave no mark at all, or an imperfect mark; and even a true cicatrix will only show, that Vaccination has been duly performed, but not how far the protective influence still remains in the system, if we admit what their statistics apparently show, that the protection may be diminished, or entirely lost, at varying periods from the date of the operation. In proof of this it is stated, that of 1055 cases of Small-pox, in which the marks were visible, 914 had good, and only 141 imperfect marks, and 147 of the above cases were of genuine Small-pox, although the marks were normal. And of 2718 revaccinations, one half had the cicatrices from the previous operation regular; yet in this half, Revaccination succeeded perfectly in 65 per cent.; in a modified manner in 26 per cent.; failing entirely in only 9 per cent. In further illustration of this point, we are informed, that, out of 14,384 Revaccinations amongst the military, in more than one half the marks were normal, yet of this number the process went on regularly in 31 per cent., and in a modified manner in 31 per cent, whilst in 40 per cent. no effect whatever was produced. Again, in the Prussian army, according to Lohmeyer, 42,041 soldiers were revaccinated; and of these 33,819 only had distinct, and many no marks whatever; yet the secondary operation was regular in 19,117, irregular in 8,672, and failed entirely in only 14,252 cases.[1] On the other hand, protection from the primary Vaccination may exist, where no trace of a cicatrix remains, as illustrated by 2,030 cases, in which Revaccination failed altogether in 47 per cent.; had a modified result in 19 per cent.; and succeeded perfectly in only 34 per cent. The testimony of Gregory[2] is to the same effect, severe forms of Small-pox occurring where the cicatrices were normal, and very slight forms where they were very imperfect. A better criterion, therefore, would be satisfactory proof of the previous process having been complete; but, as this can rarely be attained, we must depend chiefly on the character of the operator as a guarantee for the regularity of the primary Vaccination.

Cazenave and Schedel consider the best test to be Inoculation with variolous matter, the usual effect of which, if the previous Vaccination have been successful, is to produce a small local pustule, which dries up rapidly, and is not accompanied, for the most part, with any constitutional symptoms, although it may be followed by a slight general eruption. They admit, however, that this method is not without inconvenience. Inoculation, although a good test in itself, is objectionable, as tending to diffuse the contagion of a very terrible malady; for though the inoculated disease

---

[1] Medicinische Zeitung, in Brit. and For. Med. Rev., No. xv, p. 263.
[2] Med. Chir. Trans. vol. vi, second series.

in any given case may be of the mildest form, it may convey, by infection, the most malignant type of the disease to others.

Another mode of testing the efficacy of Vaccination is by a secondary operation, a Revaccination, after the lapse of varying periods of time. The effects of this secondary operation are various, and have been minutely described by Dr. Gregory. In some cases, certainly the majority at least within five years, the puncture in the skin heals in a few days without any subsequent results, or it may produce a degree of common inflammation. In others, a greater effect is produced, and in three or four days after insertion, a small vesicle, containing transparent fluid, is produced, but it is acuminated, and dies away about the eighth day. Or the vesicle may resemble the genuine one in other particulars, but is flat, does not attain the usual size, and dries up without leaving the characteristic mark; or it may be perfect in every respect, except in the existence of the areola. These imperfect vesicles may be destitute of any concomitant marks of inflammation, or they may be affected with troublesome itching, surrounded by an areola, irregular either as to size and colour, appearing sooner than the genuine pock, about the seventh or eighth day. The glands in the axilla swell very frequently; and a marked degree of redness and engorgement of the arm, with occasional smart feverishness, may exist. These symptoms are especially common in the female sex. The principal points, therefore, indicative of a spurious disease, are anticipation of the various stages, the whole progress being too short, irregularity of the vesicle, which may be too small, or acuminated, or pustular, instead of vesicular, and absence of the regular cicatrix.

But, after all, the best and most certain test that Vaccination has imparted its full influence to the system, is the regular progress of the vesicle, with its attendant symptoms, through all its stages, which have been minutely described in a former part of this paper.

In returning to the main question, it may be premised, that the protective influence of Cow-pock has been advocated on the following grounds:— 1. The power which it confers of resisting the contagion of the casual disease. 2. Of resisting the effects of Variolous Inoculation. 3. Of resisting the effects of Revaccination.

1. In proof of the first of the positions here stated, it was related by Jenner himself, that 6000 persons had been vaccinated, who entirely resisted the contagion of Small-pox, although exposed to it in almost every way for the express purpose of determining the question. The history of Vaccination in Denmark offers similar testimony; for in consequence of rigidly enforcing the practice in the first instance, Small-pox disappeared from that kingdom, but only to reappear and renew its ravages, when supineness had grown out of continued immunity. So also in Ceylon, as clearly shewn by Dr. Kennis, the extent and fatality of the malady alluded to were regulated by the degree of attention paid to Vaccination. When this was duly attended to, secondary Small-pox was both unfrequent and mild: thus of 737 cases, 550 were without satisfactory marks of Cow-pock, and of these last 198 died, or 10 in every 28; whilst of the remaining 187, with satisfactory marks, the deaths amounted only to 3, being in the proportion of 1 to 62. This evidence to shew, that the vaccinated, when exposed to the contagion of

natural Small-pox, escape the disease in a far greater proportion than those who are unprotected by the operation, might be greatly enlarged. For example; in the history of the epidemic which prevailed in Copenhagen for three years, commencing in 1828, written by Wendt, it appears that of 84 patients affected with true variola, and who had not been previously vaccinated, 24, or 1 in $3\frac{1}{2}$, died, whilst of 29 who had been vaccinated, only 4, or 1 in 7, died. The results in 1832-4 were still more strongly illustrative of the same position. Of 147 persons, not vaccinated, or on whom the operation had only been performed eight days previously to the breaking out of the Small-pox, 34 died, *i. e.* 1 in 4; whilst, on the other hand, only 10, or 1 in 90, died out of 898 who had been vaccinated. Again, of 179 affected with the true disease, 119 had not been vaccinated, and the mortality amounted to 34, or 1 in $3\frac{1}{2}$; whilst of there maining 60, who had been vaccinated, 10 died, or 1 in 6;[1] of 1043 vaccinated patients in Copenhagen, there died of Small-pox 47; of 123 not vaccinated, partly because they had *had the Small-pox*, 51 died; on the whole, of the vaccinated, there died about 1 in 22; and of those not vaccinated, about one-third fell victims.

The most recent results, which have fallen in my way with reference to this part of the subject, are contained in the last quarterly report of the Registrar-General. They shew the obstinate prejudice which still exists against Vaccination, especially amongst the lower classes, in many parts of the country, and also the great amount of protective influence conferred by the operation. Small-pox, it appears, prevailed epidemically at Lewisham in Kent, and, with the exception of five cases, all the deaths occurred in the unprotected; in East Maidstone district, in eleven fatal cases, eight had not been vaccinated; in Walcot district, Bath, fourteen died, twelve of whom had never been vaccinated; in Bath Eastern district, four individuals died, who had not been submitted to the operation; in Nottingham, St. Ann's district, six deaths occurred under the same circumstances; and in another district at the same time, in eight fatal cases out of ten, vaccination had not been practised.[2]

It is not necessary, however, to adduce farther testimony on this point, as enough appears to shew, that the immunity from casual Small-pox is infinitely greater amongst the vaccinated, than the unvaccinated portion of the community. And the same conclusion is deducible from the comparative results of variolous inoculation, accordingly as the recipients have, or have not, been previously vaccinated.

2. With very few exceptions, all persons are susceptible of the contagion of Small-pox, by inoculation; and the disease, when thus conveyed into the system, may be more or less severe, but always passes through its different stages, with due regularity, as described in a previous part of this essay. But supposing the individual to have been vaccinated, the results, as far as they have been investigated, appear to be totally different, in the vast majority of cases. The most usual effect of the operation, according to Cazenave and Schedel, is to produce merely a

[1] British and Foreign Medical Review, No. ix.

[2] See London Journal of Medicine, No. xxi, September 1850, p. 920.

small local pustule, which rapidly dries up, and more rarely a slight general eruption, for the most part unattended by any active constitutional symptoms. On the other hand, as we are told by Gregory, Vaccination, practised after variolous inoculation, is usually followed by no effects whatever. In rare instances, a modified Cow-pock is produced, the lymph of which cannot be trusted (nor in common prudence should it be), to reproduce the genuine disease.

But the effect of inoculation, at periods remote from the primary Vaccination, are very little known, owing to the difficulties in the way of instituting the inquiry. The experiments, as far as they have gone, are presumably in favour of Vaccination; at least it was demonstrably shewn by Woodville and Jenner, that for three years at least, after the operation, the system appears to resist entirely the effects of variolous inoculation, and analogy favours this view of the case.

3. The last point to which we shall refer, as demonstrative of the influence of Vaccination, is the observed results of Revaccination.

This part of the subject has attracted great attention of late years; and the increasing anxiety in the public mind, as to the real protection conferred by Cow-pock, is traceable in a great measure to the German statistics on this head, coupled with the renewed prevalence of Small-pox: yet both causes of anxiety have, as we think, been greatly overrated, as we shall endeavour to shew in the sequel. It should be premised that Schlesier, Heim, and some other writers, take for granted, that the success of a second operation for Cow-pock, shews the constitution to be equally liable to the casual contagion of Small-pox; and although the identity of the diseases in question may be urged in favour of their views, still it does not by any means necessarily follow, that a vaccinated person, although again susceptible either of the vaccine or variolous virus, when applied in a material form, should be equally liable to contract the disease by atmospheric transmission. This is a point only to be determined by very ample observation.

But assuming for the present, that the receptivity of one form of disease, indicates in an equal degree the receptivity of the other forms, what do the results of Revaccination shew? We shall first state the facts, and then draw our conclusions. In the experience of Lohmeyer, of 48,000 persons revaccinated, 37,000 presented evident traces of previous infection, yet 15,000 had the disease afresh, 12,000 took it imperfectly, and 21,000 not at all; and of this last number, one-third contracted the disease on a second Revaccination, the remaining 3,000 escaping altogether. And of over 44,000 persons, revaccinated in Wirtemberg, during five years, 20,000 were operated on with perfect, and 9,000 with modified success, and in 15,000 the operation failed altogether. Finally, in England, in 1837, forty-five persons in the hundred are described as exhibiting true vesicles after Vaccination.

Now, looking at these details in the most unfavourable point of view, they shew that in many thousands of cases taken indiscriminately, and revaccinated at various periods from the date of the primary operation, one-half, at least, were shielded entirely or partially from a second attack of Cow-pock, and therefore, according to the views of the German physicians, from a consecutive attack of Small-pox. Neither, in aiming at a fair conclusion, should it be left out of view, that many of the persons

operated on may not have had the disease, in a genuine and regular form, after the primary operation. This would be a very unfair way, no doubt, of accounting for all the failures, but a certain proportion of them may thus be reasonably disposed of. It may fairly be assumed also, that amongst the large numbers experimented on, many would be found, with that strong susceptibility of the contagion, which imposes liability to a second attack, even after the patient has gone through a regular irruption of the casual disease. But with all deductions, it must be conceded, that a secondary Vaccination may unquestionably succeed, in a certain proportion of cases.

e. Causes of Failure of Vaccination. Admitting, as all authorities to a greater or less extent do admit, the partial failure of Cow-pock, it becomes important to examine the various causes to which this has been attributed. Of these, some seem calculated rather to occasion manifest imperfection of the vesicle during its progress, than to account for failure of the protective influence, after the disease has apparently gone through its regular course.

A careless and inefficient manner of performing the operation, has been strongly urged, in the report of the Vaccine section of the Provincial Medical and Surgical Association, principally drawn up by its chairman, Dr. Baron, and this has been principally relied on by the followers of Jenner, to account for the want of success. Without, however, going the whole length with that able writer, we believe that the actual number of failures has been exaggerated, and also that a certain proportion of them, but by no means all, may be fairly attributed to the imperfection of the primary operation; as the secondary occurrence of the disease, after the most careful Vaccination, has been placed beyond doubt.

Of the other assigned causes of failure, which appear worthy of being examined in detail, perhaps the most important is the employment of unsuitable virus. Thus if the lymph be taken from a spurious pock, or from a genuine pock at too late a period, we shall in the latter case possibly, and in the former certainly, fail to impart the true protective influence by Vaccination. It has, therefore, always been considered a matter of practical importance, to determine the most suitable period and mode for selecting the lymph for the purpose of transmission. Vaccine matter taken before the eighth day has been objected to, but on no good grounds, except that it is difficult to procure it in sufficient quantity, and as interfering with a desirable uniformity of practice. The period at which it is usually selected is the eighth day, in accordance with the calculation of Mr. Jefferson, the President of the United States of America, who determined, after the most careful investigation, "that the point of time counting from Vaccination, when the matter is genuine, is, in all cases, eight times twenty-four hours." And, for the sake of uniformity, it appears desirable that this rule should be adhered to. But if the progress of Vaccination have been at all retarded, the lymph occurs in greater abundance, and is equally efficient, on the ninth or tenth day. Its employment, after that period, is justly condemned by most writers on the subject; for it will very often fail to communicate the disease. But at whatever stage the virus may be taken, provided it succeed at all, the resulting vesicle will be the same both in appearance and efficiency, as is clearly shewn by the successful effects of

vaccinating with the dry crust. This view of the case is sanctioned by the high authority of Dr. George Gregory,[1] and it appears to be more consonant with the fact than the assertion of Willan,[2] that Vaccination may fail, from the employment of lymph selected on or after the tenth day. In my own experience, I have almost invariably found the vaccine matter, existing in sufficient quantity for transmission, and perfectly energetic, on the eighth day, at which period I have, therefore, made it a rule of practice to operate.

The uncertainty of lymph, taken later, has been attributed to its being diluted with the common product of inflammation; but the experiments of Adams, and of M. Bousquet, conclusively shew, that diluted lymph may be perfectly efficient.

Great objection is made by some parents, especially in the better classes of society, to allow the matter to be taken at all from the arms of their children, but less so amongst the more ignorant, many of whom look on the taking off the pock, as they term it, practised for the purpose of procuring a supply of lymph, as a necessary part of the process. Good feeling will induce us to comply on ordinary occasions with the first-mentioned prejudice; but if every parent were selfishly to act on this principle, the supply of matter could not be kept up, and Vaccination must in a great measure cease altogether. If properly and gently done, no evil can arise; but it is a different question, whether all the vesicles may be exhausted without prejudice to the individual, or to the protective influence of the operation. Heim attributes great local irritation to the exhaustion of all the vesicles. The lymph of a primary is said to be more effectual than that of a secondary Vaccination, and it would require much stronger evidence than that offered by Heim, to convince us that it is desirable to employ the product of a revaccinated vesicle, especially if taken from an adult, which last, he says, is more energetic. In such cases, we should be sceptical both as to its purity and superior efficacy; and his assertion that vaccine matter is scarcely susceptible of mixing with any other virus, would, in no degree, lessen our fears of transmitting by inoculation the poisons of syphilis, scabies, and perhaps of other diseases. Consequently, nothing but the impossibility of obtaining matter from any other source, when urgently required, would overcome the objection just stated. Exhaustion of the entire lymph, in any given case, either by accidental rupture, or for the purpose of transmission, without leaving at least one vesicle entire, is another alleged cause of abortive Vaccination. Heim, we have seen, attributes great local disorder to the practice of exhausting the lymph in all the vesicles, and he mentions one case in which death from convulsions ensued three weeks thereafter. Grave doubts may be entertained, however, whether the convulsions were fairly attributable to the cause indicated; and the inflammation and irritative fever, occasionally of a severe character, which sometimes supervene, are attributable rather to the rough and too often repeated application of the lancet, than to the exhaustion of the lymph. We question farther whether any abatement of efficacy, in Vaccinations otherwise perfect, is a result of the cause above mentioned. Were the exhaustion of the virus to take place before the constitutional

[1] Med. Gaz., vol. xiii, p. 441. [2] On Vaccine Inoculation.

effects of the operation have arisen, some weight might be attributed to this alleged cause of failure; but at the period when the lymph is usually removed, the disease has affected the system, and it may be presumed therefore that its progress is no longer controllable by any local influence exerted on the part. Hence it may be questioned, whether, even if the vesicle were extirpated, or the arm amputated above the point of operation, the protective influence would be thereby affected. Still, to obviate a possible source of error, it is desirable to leave at least one vesicle unmolested. The question will thus be narrowed, and if failures occur, they cannot, at all events, be attributed to this cause. At the same time, a high degree of inflammation, however arising, may render it prudent to repeat the operation; and the same may be said of a very slight degree of local irritation, or of any deviation whatever from the ordinary and regular phenomena of the process. With reference to this point, it may be further observed, that Jenner directed the superficial lymph, oozing from a slight puncture, to be employed, whereas Dr. Walker detached the epidermis from the vesicle, and used in his Vaccinations the virus which exuded from its floor; and we are told by Dr. Gregory, that the result of one mode of procedure has stood the test of time as well as the other.

Many German writers, and especially Heim, allege that the number of punctures materially modifies the result, and that the production of a single vesicle is not adequate to secure the system from a subsequent attack of Small-pox. They argue, moreover, that the protective power is increased by creating an evident constitutional disturbance, which they endeavour to excite by making a considerable number of punctures, their custom being to revaccinate if one alone comes to maturity. With this view, Camerer, Wanner, Eichorn, and at one time Gregory, who subsequently abandoned the practice, advised the production of twelve, fifteen, twenty, or even thirty pustules. The effect of this must, no doubt, have been to raise a considerable degree of constitutional excitement, but attributable rather to the local inflammation of the numerous sores than to any specific effect of the infection on the system. On the contrary, the high degree of fever thus produced, would seem calculated rather to check than to promote the regular progress of the disease, not to mention, that severe inflammation, gangrene, convulsions, and even death, have been the result of this plan of over-scarifying; and on the whole, the practice may be regarded, not only as cruel and useless, but even positively dangerous; and the supposed advantage is too questionable to justify us in incurring such a risk. And there are good grounds for believing that one genuine vesicle, passing regularly through all its stages, is as effectual as a dozen; but it is convenient to make three or four punctures, to multiply the chances of infection, especially where dry lymph is employed, as well as to augment the supply of matter. For these reasons, except at the express desire of the parent, my invariable practice is to make three punctures on the same arm (to inoculate both is inconvenient not only to the child but the nurse), at such distances as may prevent confluence of the vesicles in their maturative stage.

Deterioration of lymph, arising from its transmission through a great number of individuals, is alleged by Prinz, and many others, to affect

the results of Vaccination, and it is admitted by a few, that such deterioration may actually take place, but only through carelessness or want of due skill. Dr. Baron, on the other hand, expresses his unabated belief in the opinion, that the Cow-pock virus, after transmission through many hundred persons, is now what it was in the beginning. The same view is taken by a recent writer in the *Medical Gazette*, Mr. John Patterson, who expressly affirms that deterioration of the vaccine virus is never a cause of failure, which is attributable to operating with lymph taken before the ninth day, when the pock is matured. The cases which he brings forward, however, even as far as they go, would merely show that the infection is more readily transferred at the later period; but they prove nothing as to the relative degree of protection conferred where the operation succeeds.

It is asserted by Dr. Gregory, that the number of punctures should have reference to the energy of the matter, which, after being long humanized, is alleged to be less active than that more recently derived from the cow, one vesicle with the latter being equal, in his opinion, to five or six made with the former. In these views we cannot concur, as we think that they are neither supported by the analogy of other diseases, nor demonstrated by sufficient experience. In fact, the alleged deterioration of vaccine lymph, in its progress from one individual to another, is a mere hypothesis, and therefore more importance is safely to be attached to the genuine appearance of the vesicle, and the regularity of its progress, than to any theoretical notion about the quality of the lymph, or the source from which it has been derived. It is further obvious, that the hypothesis, which we are discussing, would fail to explain the failures which occurred in the earlier history of Vaccination, even in persons vaccinated by Jenner himself.

The employment of dry lymph cannot be set down as a source of failure of the protective influence, although it may, and indeed is, a frequent cause of failure of the operation. Where liquid matter can be procured, it is always to be preferred; although a regular vesicle proceeding from dry lymph, or even from the scab, is equally efficacious. As it is impossible, however, in any given place, to keep up constantly the supply of fresh vaccine matter, it is of consequence to determine how it may be best preserved and transmitted from one country to another. When vaccine lymph is to be employed within a few days, it may be kept in an effective fluid state, either in small capillary tubes, having a central bulb, or in small bottles, with projecting ground stoppers, as pointed out by Dr. Gregory;[1] but when thus preserved, it is alleged by some authorities to produce an irritable vesicle. Where it is necessary to keep the matter for several weeks, or months, this may be most effectually done by preserving it between two portions of glass, or on ivory points, repeatedly dipped in the lymph whilst liquid. In the Vaccine Establishment in Dublin, they employ the former, and in London the latter method. The ivory points, gratuitously issued from the Royal Small-pox Institution, I have been in the habit of using from time to time for several years, and I have invariably found the lymph both genuine and effective, and the same may be said of the supplies which I have pro-

[1] Cyclop. Prac. Medicine.

cured from the sister metropolis. For transmission to warm countries, the virus is found to preserve its virtues better in the form of crust than by any other method, being simply diluted when it comes to be used.

An irregular vesicle, or modified Cow-pock as it has been termed, should always be looked on with doubt, if not as demonstrative of the non-effective nature of the operation. It may, and perhaps most usually does, arise from some defect in the lymph; but the same result may arise from the most genuine virus employed in a cachectic constitution. No more conclusive proof can be given of this than the well-known fact, which I have repeatedly observed, of the occurrence of the genuine and spurious vesicle, in different individuals, infected with the same lymph. But even when the vesicle in other respects follows its regular course, it is the opinion of some writers, that the formation of purulent matter after the ninth day, indicates a pock in which due confidence is not to be placed, and especially if the consecutive crust is friable, and of less than the usual dimensions. At all events, any vesicle not following the normal course elsewhere described, especially if approaching the irregularities of form, described under the appellation of degenerate pock by Sir Gilbert Blane, cannot be depended on; as where the vesicle is amorphous, or uncertain; the fluid straw-coloured, or purulent; the areola either absent altogether, or confused with the vesicle, or where there is premature formation of the scab. So also the operation is not to be relied on, if, after extreme itching, or premature efflorescence, the vesicle attain its height about the fifth day, or if it shall assume a conoidal acuminated form, or display the characters of a common festering sore. It is equally objectionable when the pock becomes scaly, or the areola is superseded by a species of psoriasis, or by erysipelas. In all such cases, the undeviating practical rule should be to operate again and again, until the disease goes through its regular form, or until we ascertain, by repeated trials, that there is some insusceptibility of constitution, which would probably protect the individual equally against Small-pox. At any rate, the choice remains, in such cases, after a fair trial of the operation at due intervals, between Variolous Inoculation, and leaving the patient to take his chance. Should the failure depend on some derangement of the health, we may succeed after removing this; but in certain constitutions the insusceptibility is permanent. Mr. Crosse calculates that 1 in 50 were thus insusceptible.[1]

Age. Heim advises that no child should be Vaccinated before the termination of the first year, from a theoretical belief that, during that period of life, there exists in the constitution something resistive of the protective influence. In this mode of accounting for failure of Vaccination, and more especially in the advice founded on it, it is impossible to concur, as no sufficient or valid proof has been offered in its support, and the reasons for an early operation are too cogent to be set aside on any speculative grounds. Ryan advises the operation to be performed after the sixth week, and Cazenave and Schedel not before that period, without pressing indications. The opinion of Capuron, which I quote from the Italian translation, having neither the original French, nor an English translation at hand, is to the following effect. "L'esperienza

[1] On Variolous Epidemic of Norwich, p. 32.

attesta, che l'operazione riesce quasi egualmente benigna nel neonato di venti quattr'ore, o di cinque o sei giorni; soltanto se osserva che la Vaccina è più regolare, ed accompagnata da una febbre più mite dai due ai sei mesi; ecco perchè quest' epoca della vita è preferibile ad ogni altra."[1]

In all cases where a child has been exposed to the contagion of the casual Small-pox, we should perform the operation of Vaccination forthwith, in the hope that the milder may anticipate the more malignant malady. The results of our interference will, however, prove to be various, according to the period at which it takes place. Where the vaccine lymph is inserted during the incubative, but still latent, stage of Small-pox, the effect, as stated by Gregory, is, that the latter disease runs through its course unmodified, whether the Cow-pock, as is most usual, either does not advance at all, or at least tardily and imperfectly; or whether, as may more rarely be observed, it passes through its usual process, at the same time as the casual disease. Cazenave and Schedel, however, state, that in vaccinating an infant exposed to variolous contagion, the Small-pox will sometimes adhere to its usual progress, but more frequently assume a modified type; and that, occasionally, even a confluent form of the disease will pursue its regular course, concurrently with the Vaccine eruption. At any rate, the prudent course, in case of exposure to variolous infection, is at once to vaccinate, in the hope that the germ of the casual disease may not yet have been imbibed.

The following strong practical reasons for an early operation are supplied by the Registrar-General in his First Report for the year 1839. At Bath and Liverpool, 22 children died, between birth and the second month, of Small-pox; 41 between the third and fifth months; 54 between the sixth and eight months; and 59 between the ninth and eleventh months, amounting in the whole to 176 deaths within the first year; whilst 158 children perished from the same disease in the second, and 110 in the third year.[2] Mr. Farr therefore advises Vaccination to be performed within the third month.

When Variolous Inoculation was generally practised, the fourth month was the period selected for the operation, and the same period is well adapted for Vaccination. In my own practice, I usually select any age from the third to the fourth month, if no constitutional disease, or other circumstance be present to contraindicate the operation; vaccinating, however, at an earlier period, if there be any risk of contagion from the prevalence of casual Small-pox. The period advised by Gregory is between the third and fifth months, when the child has acquired plumpness, and before dentition has commenced. Capuron considers the spring and autumn to be the best seasons of the year for Vaccinating; but this is a point of trivial importance, and at any rate, inconsistent with the rule of practice laid down as to the infant's age, the observance of which will of course impose on us the necessity of operating at all periods throughout the year.

According to Heim and some other writers, the process of teething does not interfere with the due results of Vaccination; but it appears to

---

[1] Capuron. Tratt. delle Bambini. Ed. Nap. p. 211, 1828.
[2] Brit. and For. Med. Rev., No. xviii, p. 353.

us, and many of the best authorities might be cited in confirmation of our opinion, that febrile excitement, from whatever extraneous causes it may arise, seems certainly calculated to interfere with the regular development of the disease; and dentition, if accompanied by fever, offers no exception to the rule.

In cases where the formation of the teeth is unattended by any very evident constitutional disturbance, the Cow-pock may possibly pursue its regular course; but, except for some urgent reason, Vaccination should not be performed at all during the period of dentition.

It is further asserted by Heim, that inflammations, certain fevers, and influenza, so far from interfering with, assist and hasten the effects of Vaccination; whilst nervous fevers, as he alleges, as well as hæmorrhages, dysentery, and cholera, retard their progress. Jenner also expressly states, and in this Gregory coincides with him, that the process of Vaccination will be delayed, perhaps for many days, where the infection of measles or scarlatina has been imbibed before the operation.[1]

Heim is again at issue with both Hering and Jenner, as to the influence not only of acute, but of chronic diseases of the skin, asserting, that herpes and itch usually exert no essentially modifying influence on the progress of the vesicle, whilst Hering positively affirms the modifying power of the last mentioned complaint; and it is set down as a law by Jenner, that the pre-occupation of the skin by any disease capable of affording a humour, is "the grand impediment to the success of Vaccination."

By Capuron, not only the process of dentition, but the periods of puberty, pregnancy, child-birth, and menstruation, are enumerated as unsuitable for the operation. Now it is quite possible, that the vaccine process may at times appear to go through its various stages regularly, under the circumstances described; but the more prudent course will be, never to vaccinate, except under exposure to variolous contagion, when the system is deranged from any cause whatever. By following this plan, one source of error, in ultimately arriving at the exact value of Vaccination, will be avoided; nor can the discovery of Jenner be said to have a fair trial, if the regulations laid down by him be not strictly attended to.

Retardation of the infection is another assumed cause of failure of the protective influence. It is well known, that a vesicle arising from the most genuine lymph, may, from non-absorption, or some unknown cause, be delayed in its progress, for a day or two, and occasionally for so long a period as eight, ten, twenty, or even twenty-five days, and the disease may afterwards pass through its various stages with perfect regularity. In one individual in the Prussian armies, the pock did not appear until six weeks after the operation; and in a child properly vaccinated with dry lymph, in whom no effects were observable, a number of fresh punctures, with liquid lymph, were made on the eighth day thereafter, all of which succeeded, as well as two of the punctures, which had been made in the first instance.[2] We have, in our own practice, seen the effects delayed as late as the ninth day, owing, as we thought,

[1] Jenner's Facts and Obs., pp. 137 and 170.
[2] Brit. and For. Med. Rev. No. xv, p. 262.

to some constitutional peculiarity; and Heim assigns the same cause. By other German physicians, this retardation has been attributed to cold weather. But however this may be, in some countries, and in certain seasons, the difficulty of conveying Cow-pock by inoculation has been so great, and so general, (at Turin, for instance, in 1829), that we must admit with Griva, Howison,[1] and others, the influence of a peculiar condition of the atmosphere. The effects of the Sirocco, and of other hot winds, in interfering with the process, are well attested.

It appears, even from the statistics of the continental physicians, which have been one principal cause of exciting distrust in the public mind, as to the real efficacy of Cow-pock, that about one-half of all the persons, who have been subjected to its influence, are proof against the effects of Revaccination. Hence it might be reasonably inferred, that the consecutive liability of the other half depends on some irregularity in the primary operation; and without assigning this, in accordance with Dr. Baron, as the sole cause of failure, no doubt it is so in a very considerable number of instances. But it has been well established, that, independently of any imperfection in the lymph, or in the mode of applying it, a certain undetermined proportion of the vaccinated again become susceptible of the variolous contagion; and it is therefore a question of great importance, but of great difficulty also, to determine on what this consecutive liability depends. By some, it is explained as a mere exception to the general rule, and as analogous to the secondary occurrence of Small-pox in individuals, who have already passed through the disease in its natural form; and this, no doubt, is the true explanation, to a certain extent. Another mode of accounting for consecutive susceptibility of the contagion, is by supposing, that the vaccine vesicle, whilst apparently passing with due regularity through all its stages, fails, from some inappreciable causes, in imparting its genuine influence to the system, which is therefore only seemingly, but not, at any time, really protected.

A third explanation is, that the protection imparted by Vaccination, even in the most perfect manner, wears out in process of time.[2]

Heim expressly asserts, as the result of his extended experience, that the number of persons liable to secondary attacks of Small-pox is increased in proportion to the lapse of time from the primary operation, and endeavours to account for this renewed liability, by supposing, that even after a perfect Vaccination, a portion of the susceptibility has been left unextinguished, which is possibly beyond the reach of the protecting powers of the lymph.[3] Wendt also observed, that cases of secondary variola were milder, according as the patient was younger, and therefore concluded, that the protective power was really diminished after the expiry of many years.[4] This opinion, however, is not, by any means, confined solely to the physicians of Wirtemberg, and other continental states; for Burns, many years before the observations of Heim were published, had expressly stated, that the liability to a second attack of Small-pox increases in proportion as we recede from the date of the first Vaccination, and augment the activity of the infection;[5] and

[1] Med. Gaz., vol. viii. [2] Mr. Brown in Med.-Chir. Trans., Vol. xii, p. 336.
[3] Brit. and For. Med. Rev., No. ix. [4] No. xiii.
[5] The Principles of Midwifery. Sixth Edition. London: 1824.

Spooner,[1] very recently, has advocated the practice of Revaccination on the same ground. Dr. Alison, also, whose caution and precision in drawing his conclusions, render his opinions of the highest authority, expresses his view of the subject in the following terms:

"The most important question in regard to this mitigated form of Small-pox is, whether it is more apt to occur, or approaches nearer to the natural disease, in those vaccinated long previously: and the fairest conclusion that can be drawn from the facts hitherto ascertained is, that, if not occurring more frequently, it is oftener severe in those long previously vaccinated, than in others; whence it may be inferred, that when the disease is prevalent, Revaccination may be an effectual preventive as to some who might otherwise be affected."[2]

Many accurate observers, on the other hand, are of opinion, that distance of time impresses no modification on the anti-variolous power of Cow-pock, which is alleged to resist the contagion equally at all periods of after-life; and it is further urged, that if a secondary attack of Small-pox actually becomes developed, the symptoms are alike modified, whether the primary operation has preceded its appearance by some years, or only by a few days. And certainly this view of the case is more in consonance with the law, which seems to regulate other diseases occurring only once during life; for the protective effects of measles and scarlatina are not known to suffer any diminution by lapse of time.

It is pretty evident, therefore, that renewed and extended observations are necessary to determine, at all accurately, the proportion of secondary attacks, which should be assigned to each of the alleged causes which have been passed in review. But to whatever it may be attributed, the fact cannot be disputed, that Small-pox unquestionably occurs after Vaccination, and, as it is alleged, with increased frequency of late years. The actual amount of such cases has, however, in our opinion, been greatly exaggerated, and the fatality of the epidemic, even in the places which it has most severely visited in these kingdoms, is in no degree to be compared to that of the epidemics of an earlier date, before the introduction of Cow-pock. And if from the entire number of deaths, which have occurred, we deduct those fairly attributable to the total neglect, or the imperfect performance of Vaccination, as well as those occurring in constitutions absolutely insusceptible of protection, the remainder, supervening after the perfect progress of Cow-pock through the system, will, I apprehend, be found to be extremely small. Within my own sphere of observation, the occurrence of Small-pox, especially in the unmodified form, after genuine Vaccination, has been very rare; and Baron, whose opinion on this subject is not lightly to be controverted, alleges, that the cases of Small-pox occurring after Vaccination, are not more numerous than those occurring after a previous attack of Small-pox, and consequently, it may reasonably be presumed, after Variolous Inoculation. On this point, we think, the practical question in a great measure turns; for if it can be conclusively shewn, that Vaccination, confessedly preferable, in point of mildness and safety, to either the casual or inoculated disease, confers an equal degree of exemption from a se-

[1] Prov. Med. and Surg. Journ., July 1850.
[2] Alison's Outlines of Pathology and Practice of Medicine. Part ii, pp. 475-6.

condary attack, no farther room would remain for controversy. For it is not reasonably to be expected, that Cow-pock, formerly believed, and more recently proved, to be in itself only a modified form of Small-pox, should impart any greater amount of protection than the more severe forms of the malady.

The view of Baron, just alluded to, is, however, opposed by various authorities,[1] and it must be conceded, that data do not exist which enable us to arrive at a definitive conclusion; but, reasoning from analogy, now that the identity of the different forms of the disease has been established, the fair inference appears to be, that the immunity afforded should be in each case the same. But, even if we were to admit consecutive attacks of Small-pox to be more frequent after Vaccination, at the present time, than after the casual disease, there are good grounds for believing, that they could, at all events, be reduced within the same limits, by the more perfect and careful performance of the operation. For, without totally denying the influence of other agencies, I think there is sufficient statistical information to shew, that by far the most influential cause of the renewed frequency of Small-pox, is the total neglect, or imperfect performance of Vaccination; a fact which, if fully brought before the public, appears highly calculated to restore their confidence in the preventive efficacy of Cow-pock.

But whatever may be the comparative frequency of secondary attacks, after Vaccination and Small-pox, it is certain, that the mortality is much less after the former than the latter, and infinitely below that occurring in cases totally unprotected by the previous occurrence of the disease in any form. To illustrate: of 556 cases of Small-pox which fell under the observation of Dr. John Thomson,[2] in 205 the disease was primary, and of these 50 died, or rather more than 1 in 4; 71 had previously had natural Small-pox, and of these 3 died, or 1 in about 23. The remaining 310 patients had been vaccinated, and only one case proved fatal! Again, of 419 patients admitted in 1825 into the London Small-pox Hospital, 263 were unprotected, and of these 107 died; of two previously inoculated with Small-pox, one died; whilst of 147 who had been previously vaccinated, death occurred in 12. Such a rate of mortality as this last, although still very much in favour of the comparative safety of Vaccination, is higher than in any other recorded instance. But it afterwards appeared, that only one of the twelve patients alluded to, was proved to have been efficiently vaccinated; and therefore the unfavourable opinion, deducible from the original report, must fall to the ground.

Out of a large mass of statistics illustrative of the same point, the following facts, referred to in Dr. Watson's admirable *Lectures on the Principles and Practice of Physic*,[3] appear conclusive. Of the population of Marseilles in 1828, among the 30,000 vaccinated, about 2,000 were attacked with Small-pox, and 20 perished, or 1 in 100. Of 8,000 unprotected, 4,000 were attacked, and 1,000, or 1 in every 4, died. And out of the 2,000 variolated, 20 took the disease a second time, and 4 died, or 1 in 5. On reading these details, the immense value of

[1] British and Foreign Medical Review. No. xii, p. 494.
[2] On Varioloid Diseases.
[3] Third Edition, p. 798.

Cow-pock in saving human life is irresistibly forced upon us. Yet a charge of an opposite tendency has been made against the practice, to which it is merely necessary to advert. Many years ago, it was apparently demonstrated by Dr. Watt, of Glasgow,[1] that the effect of Vaccination was to increase the other diseases, and consequently the mortality of infancy; but this view was subsequently shown, by the researches of Roberton and Cowan, to be based on erroneous statistics, and it has, we believe, been long entirely exploded. But we must now proceed to examine the measures, which have been suggested, to remedy the admitted failure of Vaccination to a certain extent.

III. Remedies which have been suggested to obviate partial failure of Vaccination—Variolous Inoculation—Employment of Lymph taken afresh from the Cow instead of the stock in general use—Increased Number of the Vesicles—The universal adoption and more careful performance of Vaccination and Revaccination under peculiar circumstances, and at suitable intervals.

a. Return to Variolous Inoculation. A few writers recommend that Vaccination should be relinquished for Variolous Inoculation, and others have proposed that the latter should be performed in all cases after the former, at once in proof and in aid of its efficiency. In point of mildness and safety, as is universally known, no comparison can be instituted between the two resulting forms of disease, and the subject for practical consideration is, therefore, not only whether the protective influence of inoculated Small-pox is greater than that of Cow-pock, but so much greater, as to render it advisable, or even prudent to abandon Vaccination altogether, or at least to test or aid its effects, in every case, by subsequently inserting the Small-pox virus.

Before adopting any change in our practice in this respect, it is incumbent on those, who advise the alteration, to enforce their views, not only by a general expression of their opinion, but reasonably to demonstrate by a reference to accredited facts—for no general expression of belief will suffice—not only, that the number of attacks, but also the number of deaths, from Small-pox secondary to Vaccination, is greater, in any given number of cases, than in Small-pox secondary to the variolous disease, whether casual or inoculated. Neither will the statement of bare results be conclusive, unless accompanied by reasonable proof that the primary Cow-pock was perfectly efficient and regular; for it is obvious, that any inferences unfavourable to Vaccination, as far as they are drawn from its imperfect performance, are thereby vitiated, and useless in determining the true value of the operation. It therefore becomes necessary to examine somewhat closely the evidence on this head. From the almost general abandonment of Variolous Inoculation in the present century, little statistical information can be adduced in illustration of its comparative efficacy; but there is quite enough to shew, that the assumption of complete immunity being thereby afforded in after life, is totally opposed to the facts of the case. It may also be reasonably presumed, that the inoculated is, at the utmost, not a more powerful prophylactic than the natural form of Small-pox. Yet it is now fully established, that

[1] Edin. Med. and Surg. Journ., vol. x; and Maunsell and Evanson on the Diseases of Children, first edition, p. 440.

the occurrence of a secondary attack, after the latter, is anything but an unusual occurrence; and the researches of Thomson, Bryce, Mohl, and others, may be adduced, as shewing that its modifying influence is actually inferior to that of Vaccination.

We have already pointed out, that it is quite erroneous to suppose that Variolous Inoculation confers any certain exemption from a consecutive attack of the natural disease; and this is proved by facts of the following kind. In the records of the London Small-pox Hospital, before referred to, of two cases of Small-pox, known to have occurred after Inoculation, one proved fatal; and at least one other person died of a secondary attack in Norwich, in 1819, and many other instances of the same kind might be adduced. Certain writers, moreover, affirm, that a subsequent attack of Small-pox is much less frequent after the casual, than after the inoculated disease. According to the conclusions drawn from the London Bills of Mortality by Jurin, to which we have already alluded, as quoted by Dr. Baron in his *Life of Jenner*, death occurred in the proportion of one in every fifty of the Inoculated.

At the utmost, therefore, we think it questionable, whether the protection capable of being conferred by the practice of Inoculation, would exceed that afforded by Vaccination, if universally carried out in the most perfect form of which it is capable. And in estimating, generally, the comparative advantages of the two plans, we must keep steadily in view the greater severity of the symptoms, and the much higher ratio of deaths, directly resulting from the operation, in the case of Inoculated Small-pox, as well as its inevitable tendency to increase the absolute mortality by the diffusion of contagion. This last consideration alone, as affecting the general welfare, is worthy of the most mature consideration; for, conceding that successful precautions might be taken to prevent the spread of the disease, under particular circumstances, it is easy to foresee, that the practice of general Inoculation, from a variety of causes, would again be followed by a great increase of the natural disease, as in former times, when the total mortality from this cause, as shown by Heberden, was swelled from 7·4 to 9·5 per cent. It is also instructive to contrast the diminished mortality, arising from Small-pox, at the present day, with that occurring before the discovery of Vaccination; for it appears that, even after Variolous Inoculation was in general operation, 1 in 14 of all persons born, died of Small-pox.

It has been a question, whether the entire prohibition of Variolous Inoculation by law is a desirable measure; but, strongly as we are opposed to the resumption of the operation as a general practice, we agree with several previous writers in the belief, that a positive enactment on this head is neither desirable or necessary. Particular instances may occur, as in the outbreak of Small-pox in a ship at sea, in which anticipation of the natural disease, by the artificial method, would certainly be followed by a great saving of human life; and we think that the circumstances under which Inoculation may be beneficially resorted to, may be safely left to the determination of the medical profession, who have already decided against it as a general practice. But the total prohibition of Inoculation by the hands of the ignorant and unqualified, is but a simple act of justice to the general community; the more especially, as the inoculated disease, even when occurring in its mildest shape, is capable of

diffusing the infection in the most severe and deadly forms. With such facts as the following before them, capable of being swelled to a long and sad catalogue, but which we have selected as the most recent, it is surely time for the legislature and the executive to interpose in an effectual manner. At St. Thomas's, East Budleigh, Devonshire, eleven individuals died of Small-pox, which had been propagated by persons opposed to Vaccination, and who *had inoculated not only their own families, but those of their neighbours.*[1] Facts like these fully justify the strong condemnation of so barbarous and fatal a practice, contained in the Report of the Vaccine Section of the Provincial Medical and Surgical Association of 1839, and the recommendation that it should be invariably superseded by Vaccination.

b. Renewal of Lymph, by taking it afresh from the Cow, for the purpose of Vaccination. It has been asserted, but by no means satisfactorily demonstrated, that lymph, taken directly from the cow, is more effective than the stock which has been so long in use, and which has been alleged to become weakened by transmission through numerous subjects. The testimony on this point is, however, discrepant. Many believe that there is little or no difference between the effects of the old and new virus; whilst in the hands of Mr. Estlin,[2] and some other English practitioners, the results have been apparently favourable to the fresh stock. That form of lymph, obtained by Mr. Ceely from direct inoculation of the cow with the Small-pox, has been found to act successfully and energetically in reproducing the vesicle in man; but whether it shall be superior to that in general use, can only be decided by extended experience. That a deteriorated form of virus, yet capable of transmission, may be produced by carelessness or want of skill, I think there is no reason to doubt, even if it had not been proved by the researches and experiments of the late Dr. John Thomson, of Edinburgh; but, provided all the directions of Jenner be adhered to, in which case only it is fair to judge, I have seen no just grounds for concluding, that the genuine vaccine vesicle, in appearance, progress, and effect, is not precisely the same that it was in his day. It appears, however, that more severe constitutional symptoms are produced by lymph taken directly from the cow; and those who hold that febrile irritation is a measure of the due effect of the virus on the system, will, of course, give it the preference. But many competent observers have adjudged the superiority to the human lymph, as more mild, equally sure, and, at the same time, entailing fewer accidents. Still, various circumstances may render it necessary to draw a fresh supply of virus from the cow; but in so doing, it is a matter of the first consequence, in order to ensure protection to the vaccinated, that the most accurate distinction shall be made between the genuine pock in that animal and the spurious forms of the disease, which caused so much embarrassment to Jenner, and which might still lead to a variety of false conclusions respecting the real value of Vaccination. The best practical rule to guide the less experienced in such matters, will be, to reject all forms of the pock

[1] Report of the Registrar-General.

[2] See a paper read before the Medical Section of the British Association, "On the New Vaccine Virus"; and another "On the Cause of the Increase of Small-pox, and the Origin of Variola Vaccina", by Dr. Inglis, in 1839.

which appear the least doubtful, and extract the lymph only from such as correspond closely with the symptoms of the genuine disease, which, principally to this end, the reader will find minutely described at a former page. The necessity for this precaution will appear, from a statement made by Heim, that there are no less than eight forms of Cow-pock. Of these, three, described as Viborg's wart or stone pock, the white eruption of Thär, and the wind-pock, are incommunicable to man. The five varieties capable of transmission to the human system are, the amber-pock of Nissen, the black-pock of Nissen, the bluish-pock, the white-pock, and the red-pock. Of the spurious forms of disease, the white-pock is perhaps the most common source of error; as it sometimes exhibits a well defined vesicle, a pink areola, and even the central depression; but its true nature may be detected on close examination, as it is destitute of two of the most striking characteristics of the genuine vesicle, namely, the presence of a fluid lymph, and the cellular structure. The distinction will be more evident in other forms of the spurious disease, presenting the appearance of reddish pustules, containing a yellow humour; mere vesicles containing a viscid, or watery fluid; a miliary eruption, characterised by the rapidity of its progress, and terminating variously in different forms of corroding ulcer; or warty induration. The subject is rendered still more embarrassing by the fact, that the true and false diseases may be prevalent at the same time, and even co-exist in the same animal. Jenner (by whom the bastard forms of pock were classed together, under the appellation of spurious cow-pock) pointed out, as broad distinguishing marks, their freedom from all bluish, or livid tints, and their property of desiccating quickly, without producing any constitutional disorder.

We have not space here to enter more fully into detail; but ample information, on the disease in the cow, will be found in the works of Jenner, Ceely, Heim, Hering, Prinz, Thiele, and other writers, who have expressly investigated the subject.[1] But from the great variety of affections in the cow, and the rare opportunities afforded to most physicians of acquiring an adequate practical knowledge of the subject, the more prudent plan, supposing at any time we may deem it expedient to renew our supply of lymph, will be to produce the disease in that animal, for the express purpose, by Variolous Inoculation. And in all cases, without exception, where the resulting phenomena, after vaccinating directly from the cow, do not appear to be perfectly regular, we should revaccinate the patients, and cease to employ the lymph for the further transmission of the malady.

But neither the casual, nor the inoculated disease in the cow, is the sole source of vaccine virus; for lymph may be procured, although with some difficulty, by the practice of Retrovaccination, or the artificial communication of Cow-pock to that animal, from the human subject. The experiments of M. Fiard, and the scepticism of Gregory on this point, have already been glanced at; but the conclusive and beautiful experiments of Mr. Ceely have subsequently put the matter

[1] See also Brit. and For. Med. Rev., No. xiii, p. 190; and No. xvii, p. 95. Trans. Brit. and For. Med. Ass., Vol. viii, 1840.

beyond doubt, and farther shewn that the vaccine lymph, thus procured, may again be transmitted with success to the human system. It is worthy of remark, however, that when thus employed, the resulting vesicle is smaller than usual, and does not reach its acme till the eleventh, twelfth, or thirteenth day; recovering, however, after two or three removes from the cow, its usual characteristics[1]. It is contended by Prinz, that this process of Retrovaccination has the effect of renewing the efficiency of the lymph, supposed to be impaired by repeated transmission through the human subject; but, even if this deterioration were admitted as a fact, it does not appear how the process could restore its efficacy. Practically speaking, the only useful object of Retrovaccination is to increase the supply of vaccine matter; for though some have argued that its quality is improved, and others, that it is deteriorated by this process, to us it appears that it would just be possessed of the same qualities, and be neither better, nor worse, for its retransmission through the cow.[2] Where it is desired to experiment on the subject, genuine vaccine lymph, taken fresh from the arm, should be freely applied to the teats and udder of a young animal. The spring is said to be the best season for performing the operation.

It may here be mentioned that, in describing certain peculiarities of the disease in the cow, Ceely[3] details some very interesting circumstances, which render it extremely probable that the Cow-pock, in one instance, had its origin in several of those animals from variolous effluvia.

c. Increased Number of Vesicles. We have already adverted to this point, and shall here only point attention to the conclusions of M. Delfraysse, contained in a note addressed to the Academy of Medicine of Paris, as the most recent promulgation of opinion that has fallen under our notice. The French writer expresses his conviction, that Vaccination is an infallible preventive, where the vesicles are sufficiently numerous to produce a degree of febrile reaction; and that its failure is attributable, as Heim has maintained before him, to the absence, or insufficient development of this febrile affection. He therefore recommends from twenty to thirty punctures, to be made in each case, in different parts of the body.[4] M. Delfraysse, in proof of his doctrine, alleges that all his patients, thus vaccinated, have resisted the influence of variolous contagion. No doubt they have: and so also have innumerable persons, protected only by two or three vesicles. But we do not maintain that a large number of punctures are ineffectual, but simply that they are cruel, inconvenient, and superfluous. We admit that thirty vesicles cannot be raised, on different parts of the surface, in any case, without producing symptomatic fever; but we question the advantage of the practice; and it evidently leads to embarrassment, as it does not appear possible to distinguish the constitutional disturbance, excited by so many wounds, from the

[1] See Brit. and For. Med. Rev.; and Dublin Med. Press, Aug. 1839.

[2] See Brit. and For. Med. Rev. No. xvii, p. 85.

[3] Mr. Ceely in Trans. of the Provincial Med. and Surg. Association, vol. x, p. 354; also, Brit. and For. Med. Rev., No. xxviii, p. 398.

[4] Dublin Medical Press, Nov. 6, 1850, p. 294.

specific febrileirritation, resulting from the effects of the vaccine virus on the constitution. And, further, if the doctrine of M. Delfraysse were true, Revaccination should succeed not in one half, but in the entire number of cases exposed to its operation. On the whole, we confess our scepticism as to the plan being either judicious, or necessary.

d. Vaccination and Revaccination. Little importance can fairly be attached to renewal of the lymph, or to the employment of a great number of punctures, as means of increasing the defensive efficacy of Cow-pock ; and Variolous Inoculation has not only been shewn to be a dangerous and ineligible substitute for Vaccination, but its actual superiority, as a protective, may be fairly questioned. Cow-pock is admitted, on all hands, to confer immunity from Small-pox, in the vast majority of instances ; and any additional security to be hoped for will probably be found, if due means shall be taken to ensure the universal and careful practice of Vaccination, aided by Revaccination, under peculiar circumstances, and at suitable intervals.

How efficacious the measures advocated would prove, may be clearly shewn, by contrasting the following table of results, occurring amongst the British troops, where Vaccination is duly attended to, with what is known to occur amongst the civil population, from the culpable and reckless disregard of the means of safety too frequently exhibited.

TABLE, compiled from the official "Statistical Reports", for twenty years, commencing in 1817, and ending in 1836.

	Aggregate Strength.	Total Mortality.	Deaths from Small-pox.
Dragoon Regiments and Guards	44,611	627	3
Troops at Gibraltar	60,269	1,291	1
In West Indies, where Small-pox was several times epidemic	86,661	6,803	0
Black troops	40,934	1,645	0
In Malta, for 19 years, where Small-pox raged as an epidemic, and destroyed 1,169 persons	40,826	665	2
In Ceylon, where above 3,000 of the natives died of the epidemic in 1819, 1830, 1834, White troops	——	3,000	4
Malay troops	——	858	9
Pioneer corps	——	647	1

Similar results were observed in India, and other British colonies ;[1] and I think it would be impossible to adduce any stronger, or more convincing practical argument, in favour of the high degree of protective power exerted by Vaccination. After reading it, we may truly adopt the conclusion of Dr. Watson, "Where Vaccination is, the contagion of Small-pox need never come."

The conditions of the lymph, and of the system, necessary to the successful transmission of Cow-pock, have already been discussed at full length ; but it remains to say a few words as to the most effective manner of performing the operation. This, in itself, is by no means difficult ; but considerable skill, and due attention, are necessary, not only to determine the genuine characteristics of the vesicle, but to decide, whether it shall have gone regularly through all its stages, and

[1] Watson's Lectures, third edition, vol. ii, p. 729.

imparted its full protective influence to the system. Hence, in Germany, the physicians and surgeons are alone allowed to operate; and a similar regulation might be adopted in these countries with great advantage. Few physicians think it necessary to employ any preparatory treatment; but the use of a gentle aperient, as recommended by Ryan, cannot, at all events, do any harm. The operation itself is done variously. Some recommend a clean, and some a blunt lancet to be used. One surgeon advises a single puncture to be made in each arm, another three or four, and a third as many as thirty, whilst a fourth prefers longitudinal scratches to punctures. Capuron says, the less painful the puncture, the better characterised will the pock be; and Elliotson advises the lancet to be so held, that the matter may gravitate into the wound. Cazenave and Schedel, on the contrary, direct the instrument to be introduced horizontally; and they object to incision as being less sure than puncture, by causing a flow of blood, and thereby diluting the lymph. Now all this rather savours of the foppery of science. Vaccination may be perfectly well performed either by puncture or incision; and he must be a very coarse operator indeed, who shall wound the arm in such a manner as to produce any serious degree of irritation. This may, doubtless, arise in peculiar constitutions, after any mode of operating; and it is very likely to occur, when the cruel and unnecessary plan of creating a great number of punctures is resorted to. The objection, founded on the dilution of the lymph by the flow of blood, we hold to be purely theoretical, and not based on accurate observation. At one period, I had considerable experience on this point, having vaccinated as many as one hundred and eighty individuals in a single day, and most of them successfully; but it never appeared, that the results were affected by the degree of hæmorrhage, which depends rather on the constitution of the child, than the want of dexterity of the operator. We may naturally expect an infant of full habit to bleed freely; and the actual state of the matter appears to be correctly expressed by Dr. Gregory, when he says, that provided genuine lymph has come in contact with the absorbing surface of the cutis vera, it is no matter whether little or much blood flows.

The plan which I adopt in my own practice, is to render tense the skin of the arm to be operated on, by gently grasping it in the left hand, and then to carefully make a few slight scratches with the point of the lancet, previously charged with fresh fluid lymph, on three different points, at the distance of about an inch apart, so as to guard against the possibility of the vesicles running into each other. The lancet should be immersed anew in the lymph after making the scarifications, and gently drawn over the wounds, to transfer to them the matter as completely as possible. The same manipulation should be repeated at each point operated on. This mode I have rarely found to fail, except where constitutional insusceptibility of the infection was present.

For the convenience both of the child and nurse, the more convenient plan is to vaccinate only one arm, as the vesicles can thus be much better defended from accidental injury and irritation. The object in making three punctures is two-fold; first, to multiply the

chances of success in the operation ; and in the second place, to provide a supply of lymph, for transmission, without disturbing all the vesicles ; and not from any belief that twenty punctures would more certainly impart protection to the system than one. At any rate, analogy is in favour of this view of the case ; for the casual small-pox appears to protect equally, whether the pustules be many, or few. Of course, where liquid virus cannot be procured, after making the necessary scratches with the lancet, the dry lymph should be effectually rubbed into them. The child's dress should be carefully adjusted, so as to prevent contact with the arm until the wounds are dry, and friction must be sedulously guarded against, as soon as the vesicles begin to form. Examination of the patient, at due intervals, afterwards, especially on the fifth, eighth, and tenth days, is indispensable, to ascertain that the progress of the disease is perfectly regular.

The most eligible age for Vaccination has already been pointed out ; but we should not delay to operate at any time, where the infant is either likely to be exposed, or has already been exposed, to the contagion of the natural disease, taking the chance that the milder may anticipate, and possibly prevent, or at all events modify, the more malignant malady. With reference to this part of the subject, we shall introduce some of the results observed in such cases, as well as certain experiments which have been instituted with the Small-pox and vaccine lymphs.[1]

Where the variolous and Cow-pock virus are inserted on the same day, each malady may pursue its course unaltered, with considerable constitutional disturbance; or they may be mutually modified by their influence on each other, the Small-pox being greatly mitigated, and the eruption either proving abortive, or terminating in imperfect hard shining pustules, called horn-pock, stone-pock, or swine-pock (*variolæ verrucosæ*).

Where Vaccination precedes Inoculation by a period not exceeding four days, the local diseases advance together, but the Small-pox may or may not be accompanied by a general eruption, and the constitutional symptoms may be very slight. In such cases, the vaccine lymph retains its peculiar properties; but more frequently it is contaminated by the variolous virus, and consequently it should not be used for the transmission of the disease.

Variolous matter will affect the system more or less severely, where Inoculation is practised anterior to the seventh day from the period of Vaccination, but subsequently it will produce no effect.

Inoculation with Vaccine and Small-pox matter mixed, is sometimes followed by Cow-pock, and sometimes by Small-pox ; and if the two forms of lymph be introduced at the same time, at separate points, but near enough to permit the vesicles to unite, the virus thence taken shall in one case produce Cow-pock, and in another Small-pox.

From observing some fatal cases, occurring in infants cotemporaneously affected with Cow-pock and Small-pox at the Children's

[1] Willan on Vaccine Inoculation. 1806.

Hospital of Paris, it was believed by MM. Rilliet, Barthez, and Legendre, that Vaccination exerted an unfavourable effect; an opinion controverted by M. Herard, who came to the conclusion, consonant with general experience, that when the two eruptions are developed together, the variola is advantageously modified, but less so in an unhealthy than a healthy child. And he adds, very justly in our opinion, that the danger in such cases arises from the Small-pox and not from the Vaccination, which should, as at least innocent, be practised in all cases.[1] This is judicious advice, at all events, although it may frequently fail to produce the desired results; and it is scarcely necessary to say, that the previous directions, regarding the mode and period of selecting the lymph, and the health of the patient at the time of operating, should be strictly attended to. In leaving this part of the subject, we may be permitted to express our conviction, that Vaccination, if universally carried into effect, with all the precautions alluded to, would be found at once the safest and most efficient means within the reach of human power, to arrest the ravages of Small-pox. At any rate, its superiority over Inoculation, in diminishing the absolute mortality from that disease, is strongly illustrated by the following results, deduced from the tables of Sir Gilbert Blane.

In the fifteen years immediately preceding the introduction of variolous Inoculation, the mortality arising from Small-pox amounted to 78 in every 1000 deaths from all causes; in the next thirty years, when Inoculation was in use, the ratio was about 90 to 1000; and in the following fifteen years, after the introduction of Vaccination, the mortality was reduced to 53 in 1000.[2] Were it not superfluous, we might farther refer to the vast saving of human life, consequent on the introduction of Cow-pock into Sweden and Prussia.[3]

But admitting that the most perfect Vaccination does not render all persons proof against the subsequent effects, either of the casual contagion of Small-pox, or of variolous or vaccine Inoculation, we are not thence to infer, that the practice is less efficacious now than it was at the earlier period of its history; but simply that Jenner overrated its power, in alleging that it extended complete protection to all who submitted to the operation; for it is now well known that, in many constitutions, the susceptibility is so strong as to be absolutely beyond the protective influence of the variolo-vaccine virus in any shape. The class of persons alluded to we believe to be greatly more numerous than has been commonly supposed, in proof of which it may be stated, that in the experiments of Heim, Vaccination, practised after Small-pox so severe as to leave the patients marked with scars, *succeeded in more than half the cases;* a result nearly analogous to the effects of Vaccination after Cow-pock.

With reference to Revaccination, the practical questions which we are called on to decide are these: Is it necessary or desirable, for the purpose of protecting the system from the contagion of Small-pox, to revaccinate, where the primary operation has been effectively per-

[1] L'Union Médicale, and Med. Chir. Rev., 1849, quoted in Monthly Retrospect, ann. eodem, p. 158.

[2] Med. Chir. Trans., vol. x. [3] Ed. Med. and Surg. Trans., vol. xxvi, p. 171.

formed ? and if so, how often and at what periods of time ? For there cannot of course be any doubt as to the propriety of a second Vaccination, where the process has either partially or completely failed, in the first instance, either from imperfection in the lymph employed, or from the existence of some cotemporaneous disease, or constitutional peculiarity in the patient. It was announced by Jenner himself, that the system, after a time, has its susceptibility of Cow-pock renewed, a position subsequently demonstrated by the observations made in Wirtemberg and elsewhere. Thus of 275 Revaccinations, in the Danish army, recounted by Wendt, considerably more than one-half succeeded, and it were easy to adduce a mass of statistics of a similar tenor. Indeed, the fact seems now incontrovertible ; but, admitting it to be so, the practical utility of Revaccination has been questioned, on the grounds of want of proof, that revaccinated individuals are less susceptible of Small-pox, than those who have only once undergone the operation. And it is evident, that the argument for Revaccination, so far as it relies on the statistics referred to, assumes that the receptivity of the artificial, implies an equal receptivity of the natural disease, or in other words, that all persons in whom the secondary operation succeeds, would be liable to an attack of Small-pox, if casually exposed to the contagion. And it is expressly on this ground that the practice of Revaccination has been advocated by Wendt, Heim, and several other writers. But this assumption, although countenanced by the identity of the different forms of the disease, has not been satisfactorily demonstrated by a sufficient body of statistical data ; and ample proof will be required to establish for it the character of a law in the disease.

One mode of accounting for consecutive susceptibility of Cow-pock, rests on the assumption, that the effects of the primary operation on the system wear out by lapse of time ; and the statistics of the German physicians have been relied on, as the chief means of demonstrating this point. But too much stress, in this respect, appears to have been laid on the facts which they have brought forward; for, on referring to the details, it will be found, that in one-half of all the cases enumerated, the system was perfectly proof against the infection, and Revaccination entirely failed. It is farther very material to observe, that this resistance of the contagious lymph exhibited itself, not merely amongst those who had recently undergone the primary Vaccination, but indiscriminately amongst all the patients operated on, who had been previously affected at any time by the Cow-pock virus. If, therefore, it be an inherent tendency in the protection conferred by Vaccination to wear out of the system by process of time, it may be fairly asked, why one-half of all the individuals operated on, should be an exception to the general rule. With reference to the question we are discussing, it is also particularly worthy of remark, that as far as the observations both of the Wirtemberg and Hanoverian physicians extended, the effects of Revaccination very closely approached each other, whether practised on those who had been previously vaccinated, or on those who had suffered from a primary attack of Small-pox in the natural way. In either case, about one-half resisted the influence of the vaccine virus either partially, or altogether, whilst the other half displayed the usual effects of the operation. Hence, it would appear, that if the protective

influence of Cow-pock really becomes extinguished in process of time, the immunity afforded by the casual, and *a fortiori* by the inoculated Small-pox, is of an equally temporary nature, an inference closely bearing on the comparative merits of Variolous Inoculation, and Vaccination. On the whole, however, the progressive extinction of the protective influence of Cow-pock may be gravely questioned, and a more reasonable explanation of the success of the German Revaccinations, may be founded on the two following considerations : 1st. That, in a considerable number of the cases detailed, the primary operation, from various causes, had not duly affected the system at all ; and 2dly. That, in a certain proportion of all individuals born, the most perfect impregnation with the variolo-vaccine infection, of which the constitution is susceptible, does not destroy the liability to be affected by the infection subsequently, more especially when directly introduced into the system, in a material form, by inoculation.

But the success of Revaccination is not the only argument advanced to show, that the effects of the primary operation gradually wear out of the system. Mr. Spooner and others, in proof of the same doctrine, assert, that the number and severity of the cases of secondary Small-pox, are increased in proportion to the length of time which has elapsed from Vaccination : and, if their belief were confirmed by a sufficient body of facts, the inference would be unquestionable ; but there is no sufficient statistical information, relative to the recurrence of Small-pox in the civil portion of the community of these kingdoms, to determine the question ; and the accurate military returns before referred to, point to conclusions very different from those of Mr. Spooner. So also do the reports of the Registrar-General ; for in an ably-written article, published by Dr. Stark in the *Edinburgh Medical and Surgical Journal*,[1] the fact, that four-fifths of all the deaths caused by Small-pox in some of the largest cities and towns in Great Britain occur in the first five years of life, is shown from the most authentic documents. This seems to militate strongly against the belief, that the protecting effects of Cowpock wear out by lapse of time; for the period mentioned is precisely that in which the influence of Vaccination should be least impaired, and, consequently, in which the mortality of consecutive Small-pox should be lowest. But it has not only been alleged, that the protective influence wears out, but fixed periods, at which this is supposed to take place, have been defined.

According to Dr. Retzius of Stockholm, the protection remains undiminished from the close of the second to about the end of the thirteenth year, gradually losing its influence to the twenty-first year, after which period, the original liability to Small-pox recurs, and continues unimpaired to the age of forty years. Subsequently it approaches by degrees the limit of its existence, which it generally attains about the fiftieth year. Hence, his advice is to repeat the operation for Cow-pock, in about thirteen years.[2]

Wendt's opinion is, that the protecting power of a good Vaccination secures the system for a certain time, perhaps for six years, and he

[1] Vol. lxiv. [2] Med.-Chir. Rev., July 1844.

admits also that a properly vaccinated person has always a milder form of the disease. As might be expected, he strongly recommends Revaccination; but he adds, at the same time, that the precise period for this, cannot be accurately determined, but must vary with the susceptibility of each individual for the Small-pox. Heim goes still further, asserting, that in very few instances was Revaccination entirely without effect, when performed five or six years after the first operation; whilst Spooner enlarges the period for successful Revaccination to fifteen or twenty years.

It is also a part of the evidence on this point, that where Revaccination does not produce any effect on the first trial, the operation should be repeated, as it will often succeed on a second attempt, although failing on the first. In proof of this, we may cite the statement of Schlesier, from which it appears that in about 14,000 unsuccessful cases, it succeeded in 1,569 on a second operation. According to Heim, the protective power of Revaccination extends to an equal time with the primary Vaccination, provided the success of the Revaccination be complete, and in no degree less perfect than the good Cow-pock of children; and that the vaccine virus be in sufficient quantity to saturate the system. Hence, it would appear, that if we were to adopt the views of Heim, the proper periods for Revaccination would be about every sixth year, during the entire period of life. Gregory assigns a longer period for the duration of the protective influence, extending, at least, to the tenth year.

But, whatever may be the true explanation, the secondary occurrence of Small-pox, in a certain number of cases, cannot be questioned any more than the fact that Revaccination succeeds to a considerable extent, and the practice may, therefore, be recommended on sound principles. There is much evidence to show that, in point of safety, the revaccinated are placed in the better position; and whether we subscribe to the theory of the progressive failure of the vaccine influence, or adopt the views, which in preference have just been advocated, it is impossible to say with certainty, in any given case, whether the system is truly protected or not. It may be added, that Revaccination is perfectly innocuous, and very rarely indeed productive of any serious results. In making this assertion, founded on the details of my own experience, I am aware, that in one case, related by Dr. Henry Kennedy, sloughing and alarming debility followed the operation;[1] but such instances are too rare, in a proper condition of health, to weigh at all against the practice, which at worst can only be useless, and may be legitimately defended, if its only effect were to save a single life, in thousands of cases. Influenced by these considerations, I have for many years recommended, and frequently performed the secondary operation as a measure at least prudent, if not absolutely necessary, and as being in no degree incompatible with the doctrines of Jenner.

With reference to the periods at which Revaccination should be performed, it appears that the opinions of different observers are too discrepant, to enable us to deduce from them any general rule of prac-

[1] Dublin Quarterly Journal, 1846.

tice. Five, seven, ten, fifteen and twenty years have been respectively assigned as the limit of the protective influence; but, even granting that this limitation exists, it may reasonably be inferred, that the period at which the immunity becomes extinguished, varies with individual peculiarities of constitution. Were it, however, in the existing state of our information, considered eligible to revaccinate at stated periods, the more prudent plan would clearly be to adopt the shorter intervals. In my own practice, I have been guided rather by the wishes of patients and their friends, and the imminence of contagion, than by reference to the actual lapse of time. It is scarcely necessary to observe, that all the precautions respecting the choice of lymph, and the health of the patient, employed in the primary, are equally applicable to any consecutive Vaccination. And it may be further observed, that where Revaccination fails on a first attempt, the operation should be repeated, as it is impossible to decide, by a single trial, that the system is proof against the renewed application of the infection, as has been fully illustrated by the experience of Schlesier, to which we have already referred.

Such are the views, which after the most deliberate inquiry, and a reasonable share of practical acquaintance with the subject, I have been led to entertain, and to which I have considered it a duty to give currency; being deeply impressed with the conviction, that *the efficient and general practice of Vaccination, aided by Revaccination, under suitable circumstances, will be found an efficient safeguard against the ravages of Small-pox, in all constitutions not absolutely beyond the influence of any protecting agent whatever.* And in this age of sanitary reform, it is a fact not very creditable to the good sense or intelligence of mankind, that a large proportion of all the children born, remain, in most countries, unvaccinated through the entire period of their lives. It evidently, therefore, becomes the duty of every member of society to contribute, as far as is in his power, to remedy a state of things, alike dangerous to the individual and to the community; and each, in his degree, may contribute at least something to so desirable an end. As far as regards the legislature, it may be respectfully suggested, that a law to enforce universally the adoption of Vaccination might be justified on principles of the soundest policy; but, even without any positive enactment on the subject, it is within the power of all governments to extend the practice in a very great degree. The bare knowledge of the fact, that the subject was considered of importance by the various branches of the executive, would do much; and the object in view might be more fully accomplished, by bringing all the powers of both the common and statute law to bear against the practice of indiscriminate Variolous Inoculation, and by requiring proof of previous Vaccination, as a necessary condition to holding any situation or appointment, whatever, remunerated out of the public purse. Effectual means of enforcing the necessary regulations are evidently within the power of the directors of the army, navy, and East India Company, as well as the various police forces. The same may be said of the Customs and the Excise, and especially of the Poor Law Commissioners, and the

different boards of guardians throughout the realm, as the inmates of the poor-houses are mainly furnished from that class of the population, in which Vaccination is most likely to be performed carelessly, or neglected altogether. In private life, a great deal might be done to the same end, by the governors of hospitals and other charitable institutions, the masters of schools, the owners of merchant and emigrant vessels, and the proprietors of the great mills and manufactories of every description, throughout the country. The more intelligent classes of society, not content with having the operation performed in their own families, might materially promote the practice, by endeavouring to enlighten the ignorance, and overcome the obstinacy, still unhappily too prevalent amongst the uneducated, with reference to the subject. The benevolent offices of the ministers of religion might also be interposed with great effect; and tracts, couched in plain and forcible language, enforcing the practice of Vaccination as a Christian duty both to ourselves and others, if issued by the various societies for the promotion of knowledge, would, no doubt, be productive of the best results. Various other measures might be suggested; but what is especially required, is a full and universal recognition of the great practical importance of the subject; for if this be once attained, measures will speedily be found to carry out to completion the discovery of Jenner, which, even with the limitations imposed on it by our more extended knowledge, must always be looked on as one of the greatest blessings ever conferred on the human race.

Recapitulation. The most important practical deductions, suggested by a careful reconsideration of the whole subject, may be briefly embodied in the following recapitulation, which the writer begs leave earnestly to commend, with all due respect, to the consideration of his professional brethren. Should the views which he has advocated be found to contribute, in the slightest degree, to reassure the public confidence in the protective influence of Cow-pock, and to promote the more general and careful practice of Vaccination, his object will have been amply attained.

1. It appears to have been satisfactorily demonstrated, that secondary Vaccinations have succeeded in a considerable proportion of the cases, in which they have been resorted to.

2. It also appears, that Small-pox has prevailed of late years to an increased extent.

3. The results in question have been attributed, partly to a diminution of energy in the vaccine infection, caused by repeated transmission through the human subject, and partly to the alleged tendency of the immunity conferred by Cow-pock to wear out of the system, after an uncertain period from the date of Vaccination.

4. Both the success of Revaccination, and the increased prevalence of casual Small-pox, appear, however, to have been exaggerated in the popular belief; and, at any rate, the facts seem explicable, in a great measure, without resorting to the hypothesis just stated, by attributing them in part to the imperfect performance, or the entire neglect of Vaccination, in part to the temporary tendency to increased diffusion, at distant and uncertain periods of time, which characterizes all epi-

demic diseases, and, finally, to peculiarities of constitution, which render many individuals absolutely insusceptible of being protected against a secondary attack, either by Vaccination or by inoculated or natural Small-pox.

5. It has been proposed to re-introduce Variolous Inoculation as a certain remedy for the occasional failure of Vaccination, ; but the superior efficacy of the practice is not only questionable, but its indiscriminate employment has been proved to be dangerous, and destructive of human life, and is therefore highly to be deprecated.

6. Revaccination, however, may be prudently recommended, not only as innocuous in itself, but also, on various grounds, as positively advantageous, even by those who question the gradual extinction of the protective influence of Cow-pock.

7. It does not appear that genuine Vaccination has lost any of the efficacy, which at any time really appertained to it; and it still remains to be demonstrated that it is not capable of conferring, to the end of life, complete immunity from the horrors of Small-pox, on a large majority of all the individuals fully submitted to its influence.

8. Even where Vaccination fails to prevent a secondary attack, the consecutive disease, in general, assumes a mild and modified form, although, in some instances, it may be sufficiently severe to leave the countenance marked with scars, and still more rarely to terminate in death: but fatal cases from secondary Small-pox do not seem to be more frequent after Vaccination, than after a primary attack of the natural disease.

9. On the whole, it is respectfully maintained, that Cow-pock, imparted in the most efficient manner of which it is capable, by Vaccination, and, under certain circumstances, by Revaccination, is the most eligible safeguard, within our power, against Small-pox ; and that it will prove effectual in most constitutions, not inherently insusceptible of protection, by any means whatever.

Strangford, Ireland, October 1850.

P. S. Since the first part of this paper appeared in the November number, I regret to learn, on the best authority, that I have unintentionally fallen into an error regarding Dr. Gregory's views, in attributing to that distinguished physician (p. 1051) any change of opinion in consequence of the researches of Mr. Ceely. Dr. Gregory is still a believer in the non-identity of Cow-pock and Small-pox ; and I therefore take this, the earliest opportunity, of rectifying the mistake.

The reader is requested to correct the following

ERRATA.

Page 1042, lines 9 and 21, *for* British, *read* Provincial Medical and Surgical.

Page 1049, line 14, *omit the word* Retrovaccination.

Page 1050, line 5, *for* Cow-pock, *read* Small-pox.

BIBLIOGRAPHICAL RECORD.

Corpulence; or, Excess of Fat in the Human Body; its relations to Chemistry and Pathology, its bearings on other Diseases and the value of Human Life, and its Indications of Treatment. With an Appendix on Emaciation. By Thomas King Chambers, M.D., Fell. Roy. Coll. Phys., and Gulstonian Lecturer for 1850. pp. 166. London: 1850.

We have derived much pleasure from the perusal of this little work, which is conceived and executed in a right philosophical spirit; and though the Lectures of which it consists have already appeared in the pages of the *Lancet*, we conceive that it merits additional notice in this place.

Obesity, or *polysarcia*, is a true hypertrophy of the tela adiposa, an increased growth, without change in chemical or anatomical characters. In this it is in marked contrast with another condition, the *fatty degeneration*, which is rather an atrophy than a hypertrophy, the tissues of the affected organs being replaced by a substance lower in the scale of vitality. The microscopical characters of the fat in these two cases clearly indicate the fundamental distinctions. In obesity the fat is *vesicular;* in the fatty degeneration it is *molecular*. Each vesicle, in natural fat, is a perfect organ in itself, having a distinct wall, and being supplied on its exterior by capillary blood-vessels. The vesicles are round or oblong, but assume a polyhedral form from compression. "Mr. Paget has pointed out an interesting peculiarity of the fat vesicles, namely, that their contents, though fluid, do not pass by exosmosis through the membranous walls. This he ingeniously explains, by noticing that the membrane is moistened continually by the same fluid which all tissues imbibe from the blood-vessels—that is, water containing albumen and salts in solution. With this the oil has no disposition to mix, and thus each drop is imprisoned in a vesicle of impermeable tissue. During life, the oil-cells, by the attraction of their walls, constantly imbibe this watery fluid from the capillary vessels that surround them; and after death, if fat be kept in or near water, no oil transudes till the cells decompose. They retain their contents, on the same principle that an oil-silk bag holds water; the one is rendered water-proof by oil, and the other oil-proof by water. The fluid thus inclosed in an impermeable sac, being incompressible, is highly elastic, and diffuses pressure equally in all directions. It is similar, in fact, in its construction, to a water-pillow; and is similar in its use too, for, distributed about the sole of the foot and the nates, it enables us to stand or sit with easy comfort, without the fear of squeezing out the oil from the tissue. The membrane is supplied with this necessary watery fluid by the capillary blood-vessels, which ramify in great abundance among the vesicles, forming loops around each, and detaining the blood as long as possible in their vicinity. When the vesicles increase in number, these blood-vessels increase in number also, and appear capable of almost indefinite multiplication. How great must be the effect of this upon the circulation! If, for instance, a man of five feet two inches, whose healthy weight would be eight stones, increases to twenty-eight, no less than twenty stones of additional fat have to be supplied with capillaries, and those capillaries have to be supplied with blood by vessels constructed to circulate but one-third of the quantity. How wonderful must be the power of adaptation which can render such a change consistent with life at all! How little cause for surprise, if that life is short, and burdened with innumerable ills!" (p. 8.)

The uses of fat appear to be to act as padding, filling up angular cavities, and facilitating motion, to defend from external cold, and to form a store-house of carbon for the use of the lungs. It is derived directly from oleaginous articles of food, and indirectly from some other proximate principles, as the saccharine. But, for its formation, it is necessary that the materials be digested in a greater quantity than is sufficient to supply carbon to the

respiration. There has been much difference of opinion regarding the means by which the oily matters are taken up by the lacteals; but experiments performed by Dr. Chambers on rabbits seem to set the matter at rest, and to show that the pancreatic juice is the agent.

The desire for oleaginous food is not equally strong at all periods of life; children commonly dislike it; the taste appears to be acquired about the time of puberty, and in a more marked degree in females.

A certain amount of fat is necessary for the perfect well-being of the individual, while an excess is injurious. It is, therefore, of some moment to determine the best way of ascertaining this point. Dr. Chambers believes that the balance is the best test, seeing that its indications are chiefly modified by the quantity of fat, the bones and muscles having comparatively little influence. This is illustrated by several examples, for which we must refer to the original work, as well as for the tables showing the average weights in healthy subjects, in obese persons, and in phthisical patients.

Corpulence is in a very marked degree hereditary. From the tables constructed by Dr. Chambers, it appears, that the tendency was referable to their ancestors in twenty out of the thirty-eight cases quoted; in five more, it was to be seen in their collateral relations; in six only was it absent, the rest being doubtful or unknown. In insanity, 13 per cent. is the full proportion; in consumption, according to the First Report of the Brompton Hospital, 24½ per cent. Of the *exciting causes*, an acute attack of illness appears to be the most common. Accidental surgical injuries also frequently produce it; and so, too, good living, with moderate exercise and an easy mind.

"The most interesting way of illustrating the pathology of obesity, will be to detail the causes of death in a considerable number of cases of this affection. I have put together sixty-nine, of which the *post-mortem* records are thoroughly to be trusted, sixty-seven having been examined at St. George's Hospital, and two by Dr. Shearman, of Rotherham, a gentleman of well-known accuracy and research.

CAUSES OF DEATH IN SIXTY-NINE CORPULENT PERSONS.

Medical Cases.

Dropsy 13	Aneurism, 1; malignant disease, 1; fever, 1; rupture of stomach, 1; polypus uteri, 1 5
Apoplectic Coma 11	Erysipelas of face 1
Pneumonia 5	
Pleurisy (acute, 2; chronic, 1) ... 3	
Fainting (fatty atrophy of heart) 1	

Surgical Cases.

Peritonitis after hernia 8	Secondary abscess 3
Erysipelas after ulcers and slight wounds 3	Nephritis after lithotripsy 1
Gangrena senilis 2	Diseased prostate 1
Diffuse cellular inflammation ... 2	Accidents 10

"The heart was examined in fifty-seven of these patients. In seven it was found healthy—viz., in four who died from accidents, in one case of rupture of the stomach, one of hernia, and one of nephritis. In the latter case, the principal local collection of fat was about the kidneys, where the amount usually found was greatly augmented. In fifty of the fifty-seven cases where the heart was examined, it was found diseased. Of the fifty diseased hearts,

5 were hypertrophied and not dilated;	26 dilated only;
8 hypertrophied and dilated;	11 atrophied.

In sixteen of these, there was an increased amount of vesicular fat about the heart—viz.,

In 13 of those which were dilated;
In 2 of those which were atrophied;
In 1 of those hypertrophied and dilated.

"In fourteen instances, the kidneys were also affected with chronic degeneration, which, in all those, where an opportunity occurred of forming an opinion, seemed to be consecutive on the cardiac disease.

"A cursory glance over the facts recorded in these lists will be sufficient to show what a great influence over life the disorders of the circulating system have had. In the medical cases, the two classes which make up the bulk of the whole, may be referred entirely to this source; and in the surgical cases, nearly all are of a nature to be much aggravated by an ill-balanced distribution of blood.

"The change which most commonly affects the heart is dilatation, probably dependent on the greatly increased quantity of capillaries distributed throughout the body, and the consequent increase in the amount and pressure of the circulating fluid upon the central organ. The hypertrophy, which sometimes ensues, is not unlikely to be an effort of nature to supply force in proportion to the increased demand.

"In eleven cases out of the forty-nine, atrophy of the heart was observed, that is, diminution in the thickness of the walls, without any external augmentation of size; and in such of these cases as were submitted to the test of microscopic examination, a deposition of *molecular* fat, destruction of the nuclei, and other evidences of degenerated muscle, were found.

"We must be careful to distinguish this fatty atrophy, or degeneration, from deposition of *vesicular* fat; the first arises from deficient nutrition, the second is due to excess. One is a retrogression from a more highly endowed tissue to one less distinguished by its importance and offices; the other is an increased growth. It is true, they may be coincident, as in the instances before us of atrophied hearts in obese people; yea, they may exist together in the same organ, as in two of these cases, where there was much fat at the base of the great vessels and degenerated muscle at the same time. But still they are contrasted conditions, hypertrophy and atrophy of different tissues.

"It still remains to be explained, why these two opposite states are so often associated together; why degenerated muscle is more common in fat than in thin people, as would appear to be the case from a paper presented by Dr. Quain, a short time back, to the Medico-Chirurgical Society." (pp. 118-21.)

In regard to treatment, Dr. Chambers observes: "The first thing indicated in all cases is to cut off, as far as possible, the supply of materials. Fat, oil, butter, should be rigorously interdicted in the diet table. But all eatables contain some portion of oleaginous matter, and especially those most convenient to advise the use of for a lengthened period. And, as we observed at the former part of our review of the light which chemistry has thrown on the subject, almost all are capable of a transformation into fat, when a small quantity of this substance is previously present. It is desirable, therefore, that the mass of food should lie in the stomach as short a time as possible, in order that at least a fatty fermentation may not be set up in it. Very light meals should be taken, at times most favorable to rapid digestion, and should consist of substances easy of solution and assimilation. To this end, the time of the meals should be fixed for an early hour in the day, before exertion has rendered the power of the entrails languid and weak. Breakfast should consist of dry toast, or, what is still better, sea biscuit, and if much active exercise is intended, a small piece of lean meat. Dinner at one, on meat with the fat cut off, stale bread or biscuit, and some plain boiled macaroni, or biscuit pudding, by way of second course. . . . Liquids should be taken, not at the meal, but half an hour after, so as not to impede the action of the gastric juice upon the mass. Here should end the solid feeding for the day; no second dinner or supper should follow, nor, indeed, any more meals be taken sitting down. A piece of biscuit and a glass of water can be taken standing up, if faintness is experienced; a cup of gruel, or a roast apple, before going to bed. . . It is often advisable to add a small allowance of malt liquor at dinner, as otherwise the craving of the appetite is less easily appeased." Among medicines, the *liquor potassæ* stands preeminent. It should be given freely in milk, beginning with half a drachm, and raising the dose to a drachm or a drachm and a half, three times a day.

THE DISEASES OF THE BREAST AND THEIR TREATMENT. By JOHN BIRKETT, F.R.C.S., F.L.S., Assistant-Surgeon to Guy's Hospital. pp. 264. London: 1850.

There are few organs in the human body subject to a greater variety of diseases, than the female Breast, nor one in which it is of greater importance that a correct diagnosis should be made. Many, we fear, have been the cases in which the frightful operation of amputation of the breast has been performed, without the slightest real occasion; and numerous the instances in which *mastodynia* has been confounded with scirrhus, and the patients condemned for months to the mental agony of supposing they had the much dreaded cancer, when in truth they were the subjects of a harmless, though painful disease. It is the duty of every medical man to guard against the possibility of such an error; and the treatise before us will be a useful guide.

The subject is considered under the following heads:

I. The Diseases before Puberty.
II. The Diseases during the establishment of Puberty.
III. The Diseases after the establishment of Puberty.

The following are some of the points which are deserving of notice.

INFLAMMATION OF THE BREAST, or MAZOITIS, may be limited to the nipple or areola, the cutaneous and subcutaneous tissues, the lobes individually or collectively, and the uniting fibro-cellular tissue. It may be either intra-lobular, or inter-lobular, or both combined. To prevent inflammation of the nipple, it is recommended that, during pregnancy, as soon as it enlarges, it should be exposed to the air, washed with soap and water, and occasionally wetted with an astringent lotion. After birth, it is of consequence that the nipple be properly cleansed after each application to the infant's mouth. If fissures and abrasions take place, collodion is advised, as preferable to other applications.

In inflammation of the subcutaneous tissue of the nipple and areola, it is recommended that, if the gland be in an active state—*i. e.* the woman suckling—warmed, evaporating, or saturnine lotions be used in preference to cold, and the general health carefully attended to. If resolution do not seem likely to take place, fomentations and soothing poultices must be applied. If, in spite of these measures, pus should form, a free opening is to be made. The direction of the incision is of importance: it should always be made in the direction of radii passing from a centre which is formed by the nipple, since, as the ducts converge to this centre, the incisions will then be parallel to them, and there will be no risk of their division.

In true Mazoitis, the progress of the disease may often be arrested by antimonials, when they can be borne. When suppuration has taken place, a free opening should be made, but *pressure* on the part must be scrupulously avoided. At that time, too, a good diet is proper.

CYSTS occurring in the mamma are divided by Mr. BIRKETT into

1. Cysts depending upon dilatation and a morbid condition of the lactiferous ducts or acini.
2. Cysts produced by a peculiar action in the fibro-cellular envelope of the gland tissue, and the consequence of a morbid state of the function of nutrition.

Mr. Birkett, having very carefully investigated the subject of cysts, has arrived at conclusions differing from those entertained by Sir B. Brodie. He is of opinion, that the lactiferous ducts are liable to dilatations resembling cysts; that this morbid condition simulates more important diseases, but that there is no evidence to prove that the growth within the ducts has any character in common with either the cysto-sarcomatous or carcinomatous new formations, and that this morbid condition belongs to the class of non-contaminating diseases. The whole of the observations on cysts are well worthy of perusal.

That distressing affection, MAZODYNIA, is considered as it occurs without induration and with induration. The former generally occurs before the cessation of the catamenia, very often in early life, and is generally connected with some menstrual derangements, and excitability of the nervous system. The treatment ought to be directed first towards the alvine secretions, and afterwards tonics must be given. In patients who will bear the loss of blood, local depletion is of service : otherwise sedatives are indicated.

When accompanied with induration, Mazodynia is a more formidable disease, the pain being often very severe, and the breast exquisitely sensitive. The suffering from this disease is indeed very remarkable, and has often suggested to persons, not well acquainted with the pathology of the breast, the existence of serious disease ; indeed, recourse has been had to excision, and to subcutaneous incisions throughout the gland ; though we imagine that it would be very difficult to say why or wherefore, although a French surgeon has recommended it. It reminds us of the very *simple* proceeding recommended by another French surgeon for the cure of myopia—*merely* dividing the four recti muscles of the eye ! which he moreover says he has done—more 's the pity ! The remedial measures for the disease under consideration are those which have been mentioned as applicable to the first form, together with gentle pressure and sedatives. We have found great benefit from a combination of the extracts of belladonna and opium in equal parts, rubbed down with oil of almonds to the consistence of cream, and then applied under oiled silk or gutta percha sheeting.

The opinions of Mr. Birkett regarding operative proceedings in CANCER are judicious. During the *first* stage of development of a carcinomatous tumour, he believes its removal to be justifiable ; but in the third and fourth stages, he condemns operations as inadmissible. We are perfectly satisfied, that when the disease is far advanced, it ought to be let alone, and merely soothed. If cut away, the object of prolongation of life will be defeated in ninety-nine cases out of a hundred.

In conclusion, we recommend Mr Birkett's volume as a perspicuous and useful contribution to medical literature.

CHOLERA : ITS CAUSES, SYMPTOMS, AND TREATMENT, CONSIDERED AND EXPLAINED. By J. P. BATCHELDER, M.D., of New York City. Pamphlet, pp. 45.

THE SYMPTOMATIC TREATMENT OF ASIATIC CHOLERA. By EWING WHITTLE, M.D., Lond., M.R.C.S., Honorary Surgeon to the Liverpool South Dispensary, and Surgeon to the Toxteth Park Cholera Hospital during the Epidemic of 1849. Pamphlet, pp. 100. London : 1850.

THE REMEDY OF EPIDEMIC CHOLERA, WITH DIRECTIONS FOR USE, SO SUCCESSFULLY ADMINISTERED IN GATESHEAD AND ITS VICINITY, PARTICULARLY IN FEBRUARY LAST. By JOSEPH BELL. Pamphlet, pp. 12. Newcastle-upon-Tyne : 1849.

In looking over the pamphlet of Dr. BATCHELDER, which is fairly enough composed, we find nothing, some questionable physiological explanations excepted, which has not been said over and over again ; although the author, from the beginning to the end of his treatise, makes no reference to the works of any other writer on Cholera. In a practical point of view, it is suggested by Dr. Batchelder, that the treatment of malignant Cholera was too active ; or, as he not very elegantly expresses it,—"many of the patients were doctored too much ; whereas the most judicious course, in many cases, would have been to stand still and let the patient get well if he could." The concluding part of this little *brochure*, written with considerable cogency, goes to prove that Cholera is neither a contagious nor an infectious disease.

The Treatise of Dr. WHITTLE, on the contrary, advocates the very converse

of the proposition just stated, on the subject of contagion. On the general question, we shall not offer any opinion here; but we think that Dr. Whittle entirely misses the mark, when he alleges that the dispute will be found to be one rather about words than facts.

Nor do we suppose, that there is any well-informed practitioner, who is not fully aware of the etymological distinction between contagion and infection; but the anti-contagionists, as they are termed, would equally object to Dr. Whittle's views, whether he should term Cholera an infectious or a contagious disease. "His conclusions on the subject," he informs us, "may be embodied in the following law,—namely, that Cholera is not so generally infectious as other epidemic fevers, but, when communicated by infection, engenders a very deadly form of disease." Dr. Whittle's law as to Cholera being infectious in any degree, cannot, even yet, be looked on as more than a questionable theory; whilst the allegation of its peculiar deadly nature when derived from infection, will certainly be set down as a mere vague assertion. A severe critic might, with some shew of reason, be disposed to question, whether the author has made himself master of the information necessary for reasoning on so abstruse a subject, when he finds him expressing the belief, as he actually does, without any qualification, "that it is scarcely possible for one, not previously infected, to be exposed to the infection of variola and to escape the disease," and "that there is no case *on record of any one being twice affected with Variola!*" (p. 95). Now there is scarcely a writer on the subject, who will not give Dr. Whittle more correct information on these points than he seems to possess, and very few physicians of any claim to experience, we apprehend, will be found, who have not met with cases of secondary small-pox. We are ourselves cognisant of more than one; and Dr. Whittle might, without any great research, have ascertained that Louis XV of France died of a second attack of small-pox, and that Dr. Baron refers to more than a hundred writers who have seen secondary small-pox. On examining the cases brought forward by the author, in favour of contagion, or infection, call it whatever he may, we find that they are perfectly explicable on other grounds; and, even on the supposition that the doctrine in question be true, his cases will add little to strengthen it. The experience of the writer, however, in the Epidemic of 1849 was ample; and, having practically found the value of blood-letting, his principal object in laying his views before the profession is, we are informed, to advocate the superiority of that remedy over every other mode of treatment, and to point out the true indications for its employment. For these indications, and the cases brought forward in favour of venesection, we must refer to the work itself, which is written in an agreeable style, and will amply repay the perusal, as Dr. Whittle is evidently a reflective, discriminating, and judicious practitioner.

The insignificant Treatise of Joseph Bell, is only worthy of notice for the purpose of denouncing it as a mere puff, equally redolent of ignorance and effrontery, and evidently published for the sole purpose of promoting the sale of the author's drugs. Whether this judgment be too severe, let the reader say, after reading the following extracts from his pamphlet. We shall only premise, that Colchicum is the remedy principally recommended,—and that we are gravely informed, that "a remedy is a medicine that in general cures."

"Reasons for Publishing this Remedy, etc. Being in earnest in this matter, and seeing that this dread pestilence was devastating the human family; and being quite incapable of adequately, to the exigency of the occasion, administering this medicine, from the range of the disease, the doubts of the public, (seeing that remedy after remedy had failed, after being sanguinarily announced for the cure of Cholera),—I made application to various parties to obtain attention to this remedy in vain; and seeing that the disease still prevails, and will prevail, and that in all probability it will break out from time to time in paroxisms (*sic*) before it finally leaves this island and Europe; and also thinking, if this treatment be a remedy for Cholera, it is too great a thing to make a household god of—a thing that so mightily concerns the

public, that they should have it; and again, should it be no remedy, however limited the range of its administration, the consequences are too serious to allow of any trifling;—then, on those grounds, I publish this—(the pioneer of a more laboured work).

"The frame is paralized (*sic*) by the intensity of the cause of this disease, I would therefore suggest STRYCHNIA in such cases (which is chiefly used in paralysis) combined with colchicum. In the state of collapse it has been advantageously given.

"It ought to be impressively remembered, colchicum, to have its virtues in perfection, must be gathered at a certain season, which is mentioned in the *Pharmacopœ* (*sic*) and must be properly preserved. Perhaps this objection lies not against veratria, which combined with an unknown acid constitutes the active principle of colchicum.

"Not that I presume it will raise the dead, which some at first may be considered as being, from the severity of the attack, some actually perishing as if struck by lightening (*sic*)—all I mean is, *amongst admitted remedies this remedy will maintain its stand.*

"*That consequently Epidemic Cholera is now a Curable Disease.*

"*The Press, I respectfully solicit to lend its aid in spreading this remedy; which, to be done safely, should be done wholly, giving both the reason, remedy, and result, as stated here. J. B.—June* 7, 1849."

Surely this is enough.

PRACTICAL SUGGESTIONS FOR THE PREVENTION OF CONSUMPTION. By G. CALVERT HOLLAND, M.D., etc. pp. 143. London: 1850.

The mental condition of an allopathico-homœopathico-globulist is a subject for the moralist and the psychologist, rather than for the medical reviewer. To others, therefore, we must leave for the future, Dr. G. CALVERT HOLLAND, lately physician to the Hospital of Sheffield, and now physician to the Homœopathic Hospital of London. We have already told our readers what London globulism is, when (p. 849-50) we noticed two books by Dr. Holland, on Consumption, one of which was dedicated to Dr. Frederick Foster Quin. We now simply announce, that we have here before us a THIRD book on Consumption, in which homœopathy, globules, and Dr. Quin, are ignored, and some of the rational methods of treatment recommended; and that the book is prefaced by a magniloquent dedication to Sir James Clark, who, we hope, is sensible of the honour which has thus been conferred upon him. This exhibition of hardihood and folly on the part of Dr. Holland, confirms our former statement, that "homœopathy, as a system of medical practice, is almost extinct; the name and the globules being retained, chiefly as topics of discourse, and sectarian insignia—insignia of no mean value to those who can adroitly display them."

THE ACCOMMODATION OF THE EYE TO DISTANCES. By WM. CLAY WALLACE, M.D. pp. 36. New York: 1850.

DR. CLAY WALLACE was one of the first of the living anatomists who adopted the view of Porterfield, and some of the older investigators, respecting the muscularity of the Corpus Ciliare, and the effect produced thereby on the Adaptation of the Eye to Distances. The pamphlet before us appears to be a reprint of his former papers; but we are somewhat surprised that no allusion is made to the investigations which have been made in this country on the same subject. The absence of such information detracts from the value of the pamphlet, for the views which it promulgates have been known and recognized for three years at least. Dr. Wallace is, however, deserving of approbation for the talent with which he pursued his inquiries on this interesting subject.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

REPORT OF THE CATHERINE HOSPITAL, AT STUTTGART, ON THE DISEASES OF CHILDREN.

The *Journal für Kinderkrankheiten*, for July and August 1850, has the following extracts from Dr. Elsaesser's Report on the Diseases of Newborn Children in the Lying-in Department of the Catherine Hospital at Stuttgart, from 1st July 1848, to 30th June 1849. This article may be considered as a continuation of the Report, of which we gave a translation at p. 494 of this Journal for May 1850.

Sclerosis of the Skin. Several feeble premature children were affected with this disease, and thereby entirely prevented from sucking. The failure of the vital powers was accompanied by intestinal catarrh, and in one case by pemphigus; the parts of the skin, not affected by Sclerosis, were yellow, and cool; convulsions and syncope followed. The following were the *post-mortem* appearances. The skin, which during life was red and hot, was very firm and resistent, but still pitted on strong pressure; the depressions, however, gradually disappeared. The cutis was of normal thickness and consistence, but the deeper layers were somewhat injected; and this appearance was sometimes more marked in the subcutaneous areolar tissue. The latter was infiltrated with a glutinous matter, partly sanguineo-serous, partly sero-albuminous, which flowed out on section. The subcutaneous fat appeared among this infiltration, partly in the form of dark-yellow isolated grains of the size of mustard-seeds, partly as yellowish granular streaks. The neighbouring muscles were also pale, being infiltrated with serum. In one case, the venæ saphenæ, lying in the infiltrated areolar tissue, had their walls thickened, and contained a little fluid blood. In two cases, the brain, with its membranes, sinuses, and plexuses, shewed traces of hyperæmia. In two others, there was anæmia of the brain and its membranes; and, in one of these, the cerebral substance was unusually firm, and the ventricles contained some serous fluid. The lungs, in one case, were bloodless, and very emphysematous; in two, they were in a state of atelectasis. In another instance, the lower border of the upper lobe of the left lung was adherent posteriorly to the costal pleura, and contained an abscess as large as a hazel-nut, surrounded by an area of inflammation; there were also two other abscesses in the same lobe. The upper lobe of the right lung was in a state of partial atelectasis, and also contained abscesses. The heart, in several cases, was filled with dark blood, and in one instance contained a fibrinous clot. The liver, and large abdominal vessels, generally contained much blood; but in one case the liver was anæmic. The spleen was large, dark-red, and friable; the intestinal mucous membrane, in two cases, had a catarrhal appearance, being swollen, injected, and presenting slate-grey and brownish spots, with enlargement of Peyer's patches and of the follicles. The kidneys contained a deposit of uric acid in two instances.

Congestion of the Brain occurred in six cases. In one instance it followed extraction by the forceps, and was accompanied by heat of the whole body, and convulsions of the muscles of the face and limbs; there was also a peculiar croupy cough, yet unattended by any obvious change in the organs of respiration. The child recovered perfectly under the use of leeches, and of calomel and magnesia.

Trismus occurred in one case. A mature male child, who had been healthy until the eighth day, was seized with slight ophthalmia, and acidity of the stomach; but improved under the use of antacids. It was suddenly attacked, after a change of nurse, with frequent paroxysms of Trismus; for which baths and opium were used, but the child died on the following day. The vertebral sinus was found remarkably vascular, especially in the cervical and lumbar regions; there was some yellowish serous fluid between the spinal dura mater and the periosteum. The spinal dura mater was remarkably vascular, and somewhat dull; the pia mater was very hyperæmic, and the cord rather soft. The skull, brain, and cerebral membranes, were strongly injected; the plexuses moderately so; the thyroid body was large. The right venticle of the heart contained a fibrinous coagulum, and the left a dark one. The right lung was slightly fœtal, and the left mostly so. The liver and kidneys were hyperæmiated; the umbilical arteries were thickened, and their cellular membrane injected.

Congenital Hydrocephalus: Absence of Cranial Bones. A male child died half an hour after being extracted by the forceps. The head was double the normal size, fluctuating, and without bony substance: the eyes were staring; the mouth wide. In the neck, there was a fold of skin like a double chin; the child was chicken-breasted; the abdomen was large, and the testicles had not descended; the limbs were crooked; the anus open; and the skin leathery. The bony cranium was wanting: the dura mater lay immediately beneath the skin. Only on the temples was there a thin osseous deposit: the dura mater presented spots of ecchymosis: the cerebral membranes were much hyperæmiated and softened, with some bloody serum between them. The brain was of normal consistence, but vascular; the ventricles were much distended with serum; the plexuses were very vascular; the base of the skull was thinly ossified, but only as high as the external auditory meatus. The spinal column was healthy; the canal contained some sanguineous fluid; the cord and its membranes were hyperæmiated, but not softened. Both lungs were for the most part fœtal; the heart lay obliquely, and its right ventricle was very broad. The liver was very large; the stomach lay perpendicularly. The right kidney contained four, and the left five calices. The thigh and leg were ossified only in points: there were no connected ossified masses in the right arm, nor any distinct formation of joints.

Sanguineous Apoplexy. A mature female child enjoyed perfect health for six days after birth. At the end of this time it had green stools, refused the breast, cried much, and was drowsy. Antacids, baths, and clysters were employed. Convulsions of the limbs and emaciation set in. Towards the ninth day after birth, there was spasmodic breathing, frothing at the mouth, etc. Stimulants produced some improvement: but leeches to the back of the head were of still greater benefit. Tetanic contractions of the jaw and limbs soon supervened; and death occurred on the tenth day. On *post-mortem* examination, the cerebral membranes were found to be very vascular; at the base of the skull, on the dura mater, there was an extravasated mass of the size of a bean. The brain was very vascular, with a tendency to capillary apoplexy; the plexus was much congested. The heart, especially the right ventricle, was very full of blood. The membranes of the spinal cord were somewhat hyperæmic: and, at the lower part, there was a clot of the size of a bean. The cord was moderately vascular.

A premature male child died half an hour after birth. Delivery had been normal: but the mother was suffering from typhus fever. There was an abundance of dark red matter extravasated on the dura mater of the brain, as well as on the pia mater at the summit of the hemispheres, and in both ventricles. The plexus was moderately red. There was also extravasation at the base of the brain, especially at the optic commissure; the cerebral substance was very vascular; the lungs were mostly fœtal; and the kidneys were lobed.

Serous Apoplexy. The subject was a healthy mature male child, who had been delivered by turning. On the second day, there was some shortness of breathing, and mucous rattles. There were several paroxysms, with interval of freedom; in one of the attacks the child became pale, and mucus flowed from the nose. It died on the third day. The meninges, especially on the cerebellum, were much injected; there was no extravasation. The substance of the cerebellum was more vascular than that of the cerebrum; the plexuses and sinuses were congested. There was a yellow gelatinous matter effused between the arachnoid and pia mater, especially on the upper surface of the brain. The air-passages contained an abundance of mucus. The lungs were permeated by air throughout: here and there, there were extravasations of blood. The heart was small, and empty; the kidneys contained uric acid.

Inflammation of the Eye. Ophthalmia appeared in 29 males out of 162, and in 40 females out of 168; the greatest number of cases was in July, the least in April. In most cases, the disease appeared between the second and fourth days after birth. It was congenital in four cases. The affection was mild in 51 instances, but severe in 18 cases, of which three terminated in blindness from perforation of the cornea and prolapse of the iris; one in the left eye, one in the right, and one in both eyes. The constitution of the children exerted no marked influence on their liability to become attacked, for thin and weakly children were seized as easily as the well-nourished and strong: but the latter class shewed a somewhat greater tendency to this affection. In a child born of a syphilitic mother, ophthalmia appeared in only a moderate degree.

Pneumonia. A mature normally formed child had from birth mucous rattling and some dyspnœa; it had also hyperæmia of the brain, with drowsiness, and want of appetite. On the third day, there was dull stroke-sound and bronchial respiration, over a space two fingers broad, at the posterior and inferior part of the right side of the chest; the dyspnœa increased; the countenance was livid, then pale. Death occurred on the fifth day. At the *post-mortem* examination, the skull was found very vascular; the brain and its membranes pale. On the left side of the cerebellum, between the membranes, there was an extravasation. The bronchial tubes contained rusty mucus: but their mucous membrane was healthy. There was a quantity of watery exudation in the pericardium. The liver was hyperæmiated; the large intestine strongly contracted; the urinary bladder was distended to the size of a hen's egg, without evident difficulty of evacuating the urine. The upper lobe of the right lung was mostly condensed: the middle one was normal: and the lower one was condensed for two-thirds of its extent. The upper lobe of the left lung was healthy; but the posterior part of the lower lobe was condensed. The hepatisation of the right lung was lobular, of the left more lobular; on the left side, blood escaped on pressure; on the right, there were also grey patches, from which a grey fluid escaped on pressure. The hepatisation in the upper lobes was reddish grey.

Softening of the Stomach occurred in a male and in a female child. Both children at first sucked eagerly; but, in consequence of the illness of the mother, one had to be artificially fed, and was seized with aphthæ, vomiting, green stools, and drowsiness. The other child became ill without any evident cause; it had convulsions, bowing of the head backwards, scanty green evacuations, and vomiting on the last day. In both there was rapid emaciation, and collapse: death occurred on the tenth day. In the female child, an extravasation was found between the skull and dura mater, in the vicinity of the right temporal bone: the sinus was filled with blood and coagulated fibrin. There was some blood extravasated in the arachnoid on the left side of the cerebellum; the substance of the latter was softened, of a brownish-red colour; the base of the brain was vascular. The lungs were rose-coloured, emphysematous, and very large. The right ventricle of

the heart contained a large quantity of dark blood. The intestines, especially the stomach, were much swollen ; and at the base of the latter there was a portion so much softened, that it was easily torn : the mucous membrane could be easily stripped off ; the softened parts had a blue-red appearance. The rest of the intestines were swollen, but healthy. In the male child, the meninges, especially the arachnoid, and the cerebral substance, were very vascular ; the plexus was congested, of a dark-red colour. The heart contained much blood, partly fluid, partly coagulated. There was uric acid in the kidneys. The base of the stomach was lacerated on being taken hold of ; it contained coagulated cheesy masses. The parts surrounding the softened portions showed no trace of inflammatory reaction : the softened mucous membrane was of a rusty-brown colour, and easily stripped off. The œsophagus and duodenum were healthy. The lungs were anæmic, and studded with spots of atelectasis.

Diarrhœa and Vomiting occurred in one male and four female children ; four of the cases were fatal. Death took place in two on the 17th day, in one on the 14th, and in the other on the 10th day. The preceding circumstances were, inflammation of the eyes in one case, artificial feeding in two, congenital debility in one ; in the fifth, there was nothing remarkable. The symptoms were those commonly observed ; but the prognosis was frequently rendered more unfavourable by the refusal of the children to take food. The evacuations were sometimes green, sometimes almost colourless, thin and watery. In one case, the vomited matters had a fæcal odour. The treatment consisted at first in antacids ; then in *mistura oleosa* with opium, clysters of starch, friction of the abdomen with oil of henbane and of camomile ; and lastly, musk was given as a remedy for impending collapse. On *post-mortem* examination, the stomach and intestines were found healthy in two cases ; in one case, the mucous membrane of the stomach was easily removed. In the fourth case, the stomach and intestines were much distended, but the jejunum was thin, and vermiform ; from between it and the duodenum there arose a cellular band, which reached to the pelvis—a product of intra-uterine peritonitis. In the remaining intestines, nothing remarkable was observed. The liver was very vascular in two cases. In one case, the right kidney contained more blood than the left ; in one, the bladder was distended to the size of a walnut. The lungs were in two cases in a fœtal state, in one much congested ; one case presented interstitial emphysema of the lungs, which were otherwise healthy. The heart was generally very full of blood. In three cases, the brain and its membranes presented extreme vascularity, almost amounting, in two instances, to capillary apoplexy.

Debility. Under this head, twenty deaths are recorded, being not much less than half the fatal cases among the new-born children. Although the term "debility" (*Lebensschwäche*) is indefinite, yet it is characteristic ; for no especial sign of disease can be observed beyond a general failure of the vital powers. They were either apparently dead, or in a condition very similar. The symptoms worthy of especial note were the following. In one case, there was stertor and short breathing, with some vomiting and convulsions. Another child was vigorous immediately after birth, and the symptoms of vital debility first appeared at the end of six hours. In a third case there were vomiting and petechiæ ; in a fourth, ophthalmia. Five other cases presented peculiar symptoms. (*a*) A premature female child, which at first sucked with vigour, and appeared to thrive excellently, was seized with icterus and aphthæ, suddenly refused the breast on the eleventh day, became weak, wasted, and died on the twelfth day. (*b*) A prematurely born female child, at first thriving, had aphthæ, acidity of the stomach, and icterus, and refused the breast. Artificial nourishment was employed : the child had green evacuations, and died on the tenth day. (*c*) A premature male child, who shewed no symptom of disease until the ninth day, suddenly refused the

breast, cried much, had distortion of the eyes and convulsions, and died on the tenth day. (*d*) A premature male child was vigorous during the first days, but was then attacked with aphthæ, green evacuations, emaciation, and drowsiness, and died on the thirteenth day. (*e*) A mature male child, with intense icterus, cried much, had numerous green evacuations, became emaciated, had aphthæ, and died on the fifteenth day.

The following is an abstract of the *post-mortem* appearances in twelve cases. The brain, or its membranes, were vascular in six cases: in one, there was also an extravasation between the skin of the skull and the pericranium, and gelatinous exudation over the whole upper surface of the brain, with œdema of that organ. In another of these cases, there was hyperæmia, with extravasation in the pia mater and ventricles: there was farther observed to be serum in the ventricles, and extravasations on the base of the skull. In the other six cases, the brain had no abnormal appearance. In the whole twelve cases, the lungs were more or less fœtal. The heart, in six cases, contained coagula; here and there it was empty of blood. Nothing remarkable was observable in the abdominal viscera. In all these cases, atelectasis of the lungs was present; and in half, there was hyperæmia of the cranial viscera. From this, we may pretty surely infer the connexion of atelectasis with the occurrence of the symptoms of vital debility soon after birth. On the other hand, the hyperæmia of the brain appears to be neither a necessary cause nor effect of the atelectasis. The effusion of serum in the ventricles, with extravasation of blood, observed in some of these cases, might perhaps have been adequate causes of the debility.

The following case presented some very interesting appearances. A mature female child died half an hour after birth. The general integument was soft and doughy; the abdomen much distended, the neck swollen, the face livid, the lips thick and blue, and froth issued from the mouth. Between the skin of the head and the pericranium, there was a considerable effusion of blood with serum. The pericranium on both temporal bones, as well as the dura mater and arachnoid, were very strongly injected; and there was a sero-gelatinous exudation on the upper surface of the brain, between the arachnoid and the pia mater. The brain was œdematous and soft; the lateral ventricles were distended with serum. The subcutaneous areolar tissue over the whole body was infiltrated with serum; the adipose corpuscles were remarkably distinct and prominent, as in sclerosis. There was a quantity of yellowish serum in the pleural and peritoneal cavities; the lungs were small and fœtal, and weighed little more than four and a half drachms. The pericardium contained a normal quantity of serum. The ductus arteriosus was perfectly closed, as was also the foramen ovale. The ductus venosus was still pervious. The liver and kidneys were hyperæmiated; the spleen dark-red and friable. It can scarcely be doubted, that the general dropsy, observed in this case, was due to the closure of the fœtal passages, and consequent change in the course of the circulation, even during intra-uterine life.

Although, from what has been observed, atelectasis cannot be considered as the cause of debility, it nevertheless is instrumental in producing death, as the imperfectly oxygenised blood is unfit for life, especially for that of the brain.

Of fifteen children who died of debility, two were delivered by the forceps and by turning. In the remaining thirteen cases, the duration of labour was from 11 to 14 hours in four; from 2 to 6 hours in three; from 24 to 72 hours in the other six. This seems to show, that a very rapid as well as a tedious labour is unfavourable to the child. As to the condition of development, it was observed, that in twenty-five deaths from debility, two only occurred in mature children. This was between one-ninth and one-tenth of the total number of deaths (19) in children born at the full period: while, among the deaths in the prematurely born children, those from debility were thirteen in twenty-four, or 54 per cent., being above one-half. The propor-

tion to the number of births was as follows : deaths among the nature children, 1 in 137 ; among the prematurely-born, 13 in 38 ; so that rather more than one-third of all the prematurely-born children died of debility. Most died from the first to the third day after birth ; and most in the winter months.

The following were the *post-mortem appearances* in five cases, which have been above referred to as presenting symptoms not peculiar to debility.

(*a*) The lungs were very pale, grey-red, nowhere fœtal, containing a frothy, pale-red, sanguineo-serous fluid. Small extravasations of air, of the size of peas, were scattered over their surface. Microscopic examination showed, that these did not arise from rupture, but from resorption of the septa ; the cavities had portions of septa projecting in their interior.

(*b*) The umbilical arteries were thickened, and filled with pus. There was some croupy exudation on the hard palate and tongue : the mucous membrane of the stomach was reddened in spots : there was slight swelling and hyperæmia of Peyer's glands. The liver was friable, and contained a moderate quantity of blood. The lungs presented spots of atelectasis, and were somewhat œdematous. The superficial veins of the spinal cord and brain were full of blood. The abdominal and thoracic serous cavities contained some sanguineo-serous fluid.

(*c*) The lungs were anæmic, dry, and contained air ; the heart and liver full of blood. The cranial contents were somewhat vascular.

(*d*) The brain was very dry ; the mammary glands atrophied ; both lungs contained air ; the intestines were contracted, but the transverse colon was much distended.

(*e*) All the organs were yellow throughout. The liver was flabby, small, and void of blood ; the spleen very large ; the kidneys anæmic ; and the mammary glands very small. The lungs were superficially hyperæmic ; and presented small ecchymoses. The heart and large vessels were full of thin fluid blood, which, under the microscope, appeared yellow at the edges and violet-coloured at the centre, and exhibited numerous lymph-globules. The cerebral vessels contained much blood. The lateral ventricles contained coagula, surrounded by a yellow layer of exudation. The brain was very soft, and had coagula on its surface : there was also blood effused from the vascular membrane of the spinal cord. In this case, there was cholæmia from impediment to the removal of the bile from the blood.

Atelectasis of the Lungs. From forty-three children who died, five are to be deducted ; viz., four who were not examined after death : and one who died of pneumonia, and in whom it could not be distinguished whether the lungs were fœtal, or not. Thirty-eight cases then remain : in fifteen of these,—five premature, and ten mature children,—the lungs were perfectly permeated by air ; and in twenty-three,—eight mature, and fifteen premature,—they were more or less fœtal. Hence prematurely-born children have twice as much disposition to Atelectasis as those which are born at the full term.

Death was directly caused by atelectasis, under symptoms of debility, in two mature, and ten immature children, generally in the first half of the first week. In eleven others,—six mature, and five premature,—atelectasis seems to have been only a predisposing cause of disease, and death was directly produced by other diseases ; viz., sclerosis, erysipelas, infantile cholera, softening of the stomach, trismus, hydrocephalus, and apoplexy. With regard to the extent of the atelectasis in twenty-three cases, the lungs were perfectly fœtal in two cases, so that the child could only have lived a short time : in seven cases, there was partial atelectasis, fœtal spots being scattered over a greater or less extent of the interior of the lungs. The surface of the lungs contained more or less air in two cases. The anterior borders, the apices, and the anterior and superior portions, contained air ; while the remaining parts were fœtal in eleven cases. In one case, only a part of the upper lobe was fœtal. In four cases, the left lung was less fœtal than the right : and in one, the right lung presented less atelectasis than the left.

State of the Lungs. In the cases of Atelectasis, the lungs were several times rather soft and œdematous, but more frequently anæmic, pale, flabby, with an excess of blood in the large vessels, and here and there in a state of putrefaction, with development of gases, but in other cases presenting emphysema of the parts where respiration had taken place. In one case, there were five abscesses in the two lungs: in another, the tissue had undergone intra-uterine hepatisation. Of the fifteen cases in which the lungs had been perfectly permeated by air, they were congested in two; anæmic, pale, and dry, in four; emphysematous, in parts much so, with extravasation of air, in four cases.

State of the Fœtal Passages. (*a*) The *ductus arteriosus* was, in one case, found morbidly closed immediately after birth. It was usually open (nine cases) in the first week; but sometimes then contained a coagulum of fibrin. The fibrinous coagulum generally appeared from the seventh to the fourteenth day; the canal was then still partly opened, but narrowed; in four cases, it was imperfectly obstructed by a membranous septum. In the third week, it was much narrowed in three cases, and only permitted a fine sound to pass: in one case, it was entirely closed. In one instance, it was found open towards the end of the fourth week. (*b*) The *foramen ovale* was, in one case, found closed immediately after birth. It was generally (in seven cases) open during the first and second weeks: in three cases, it was entirely closed towards the end of the second week: in one case, it was open at this period. (*c*) The *ductus venosus* was open till towards the end of the second week, in eight cases; closed, more or less firmly, at the fourteenth or sixteenth day, in four cases; in one instance, it was firmly closed on the sixth day.]

REDTENBACHER ON THE URINE IN PNEUMONIA.

In the year 1846, Dr. W. Redtenbacher commenced a series of observations on the Urine, with the view of determining, 1. In what relation the inorganic salts—chlorides, sulphates, and phosphates—stand with regard to the specific gravity of the Urine? and 2. Whether any intimate connexion can be detected between the increase or decrease in the quantity of salts, and the increase or diminution of certain diseases. The results of his observations are published in the *Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, for August 1850.

1. The quantity of inorganic salts is not subject to great variations, so that they do not exercise any great influence on the specific gravity of the urine; it is the organic constituents—urea and uric acid—which chiefly affect its density. Urine of high specific gravity may contain a small quantity of inorganic salts, while a tolerably large amount may exist in urine of low specific gravity.

2. The quantity of chlorides in the urine has a direct relation to the intensity of the inflammation, in cases of pneumonia. When the urine of a healthy person is treated with nitrate of silver, after being acidulated with nitric acid, the copious precipitate of chloride of silver shews the presence of a considerable quantity of chlorides. If the urine of a patient labouring under pneumonia be examined, a normal quantity of chlorides will be found at first: this gradually diminishes as the inflammation advances, until, when hepatisation is perfect, the chlorides entirely disappear, so that nitrate of silver does not even produce a cloudiness after long standing. When the inflammation, or rather the hepatisation, again recedes, the chlorides re-appear, and continue to increase as the disease advances towards cure. This diminution and re-appearance of the chlorides in pneumonia has been constantly observed by Dr. Redtenbacher, in upwards of eighty cases; and further, the smallest quantity of chlorides always accompanied the most intense inflammation, and the rapidity or slowness of their decrease or increase was in constant relation to the rapid or slow course of the disease. The re-appear-

ance of the chlorides constantly accompanied the retrogression of the inflammation ; their presence in the urine, indeed, often preceded the signs furnished by percussion in denoting incipient recovery.

It is true that, in typhus, acute rheumatism, and capillary bronchitis, the chlorides are diminished in quantity: but this decrease is not constant, nor does it appear at any certain period of the disease. In tuberculous infiltration, the chlorides are present in normal quantity, but diminish for a short time under a fresh addition of infiltration.

It might be objected, that the chlorides in the urine are chiefly dependent on the culinary salt taken with the food : but if this objection were of any force, they would be diminished in all diseases in which less food is taken ; which is not the case. Besides, one-half of the patients with pneumonia had, throughout the whole course of the disease, drink acidulated with hydrochloric acid given to them : yet the same phenomena were manifested, and there were no chlorides in the urine when the disease was at its height.

It must hence be concluded, that the removal of the chlorides from the urine during the course of pneumonia belongs essentially to the disease, and that they must be disposed of in some other manner.

ENEMATA OF ETHER IN RHEUMATISM AND NEURALGIA.

It has been ascertained by M. Pirogoff, that the injection of the vapour of Ether into the rectum produces complete anæsthetic effects ; and M. Marc Dupuy has found, that the same is the case when fluid Ether is injected, either pure, or mixed with an equal quantity of water. M. Gaussail relates two cases, which shew the beneficial results of this proceeding, when it is desired merely to obtain the calmative and antispasmodic effects of the Ether.

Case i. A lady, aged 45, subject to nervous and rheumatic affections, had for some days suffered from temporal neuralgia, of a continuous remittent type. A sedative epithem, and antispasmodic medicines, produced slight ease. The neuralgia was soon replaced by violent and continued pains in the sciatic nerve, which prevented the patient from walking or sitting. After trying various remedies for two days without any result, M. Gaussail prescribed an enema, containing four grammes of Ether in one hundred grammes of water. In the evening, the patient was perfectly free from pain ; the absorption of the ether was manifested about half an hour after its administration, by its peculiar colour, and by a kind of pleasant suppleness and heat in all the limbs. The enema had been retained without producing any inconvenience ; and a hæmorrhoidal flux, to which the patient was subject, re-appeared in a few hours. She passed a good night ; on the following and subsequent days, there was no return of pain in the thighs ; and, although there were still wandering pains in other parts of the body, the patient might be said to be cured of the neuralgia.

Case ii. A yound lady, of delicate constitution, had been affected for some time with general rheumatism. M. Gaussail prescribed, for a very severe pain in the præcordial region, an injection with six grammes of Ether. This had not the effect of calming the pain.

Remarks. It is chiefly in wandering neuralgic and rheumatic pains in hysterical females, that enemata of Ether, and still better of chloroform, are likely to prove beneficial. In hysteria in particular, where it is often difficult to make the patients swallow medicines, enemata of Ether or chloroform often remove the most intense spasmodic symptoms, as if by enchantment. The proportionally greater activity of chloroform renders more care necessary in its administration : twenty or thirty drops in one hundred and twenty grammes (thirty drachms) of fluid, generally produce the desired effect. [Abridged from *Bulletin Général de Thérapeutique*, 1849, vol. xxxvii, p. 139 ; as quoted from *Journ. de Méd. de Toulouse*, and *Journ. des Conn. Méd.-Chir.*, July 1849.]

TARTARIZED ANTIMONY IN INSANITY.

In the *Annales Médico-Psychologiques* (July 1850), the following abstract is given of Dr. Flemming's views, as contained in the *Allgemeine Zeitschrift für Psychiatrie.* The author examines in this article the action of Tartarized Antimony in the treatment of Mental Diseases. This action varies as the medicine is administered in large or in fractional doses. In a large dose, it has been seen to cut short instantaneously a fit of insanity; and the patient, after a certain period of torpor, has almost lost the recollection of his excitement. But, to produce this effect, the medicine ought not to produce vomiting. When the emetic is given in fractional doses, it produces nausea, and exercises a kind of indirect sedative effect, in consequence of the modifications which result from it in the functional condition of the digestive organs. The editors of the *Annales Médico-Psychologiques* add to the observations of Dr. Flemming, that the administration of the drug requires certain precautions, which cannot be neglected without producing the most serious results. There are, say they, patients who appear to bear the tartarized antimony perfectly well, and there are some on whom the medicine appears to have no effect; the excitement continues, and there are neither stools nor vomiting; all of a sudden, the excitement is calmed, a colliquative diarrhœa is established, and there is exhibited as severe a degree of poisoning, as if there had been given at once the whole of the successive doses administered on several days. This fact ought to attract the attention of practitioners, because the same is the case with other medicines. This may be explained in two modes; either the medicine is accumulated in some degree in the stomach, where it does not act till it reaches a certain dose, or its action is latent, and the last dose is no longer tolerated like the preceding ones, by reason of the modifications which have supervened in the sensibility of the internal organs.

PARALYSIS OF THE FACIAL NERVE IN A CHILD.

In a clinical lecture on the case of a child, two and a half years old, admitted into the hospital at Berlin with Paralysis of the right Facial Nerve, which had appeared six days previously, without any obvious cause, Professor Romberg made the following remarks.

Paralysis of the Facial Nerve is not so readily detected in children as in adults: in the latter, the want of symmetry in the two sides of the face is very evident; in the former, it is only shewn during crying, etc. The smoothness of the forehead in children also tends to prevent the Paralysis from being observed. On looking at the child when quiet, nothing remarkable was seen: but when it was made to cry, the mouth was drawn to the left side, and the right eye was not closed. According to the parents, this eye was nearly closed in sleep. This shewed that the Paralysis had not yet become entire: in perfect Paralysis, the eye remains open even during sleep. Professor Romberg called attention to the influence of sleep on convulsive and paralytic affections. In patients, in whom contraction of the flexor muscles accompanied paralysis of the extensors, the former had been observed to be relaxed during sleep. In sleep, the brain exercises a different influence over the various parts of the nervous system: hence arises the changed position of the eye in sleep, and hence also occurs the closing of the eye, which, when the person is awake, is kept open by the oculo-motor nerve, acting through the levator palpebræ, while, during sleep, the latter is relaxed, and the Facial Nerve only acts through the orbicularis palpebrarum. The collapse of the ala nasi is not so evident in children as in grown persons; only when they sneeze can it be observed, that the peculiar movement which accompanies this effort is wanting on the paralysed side.

In determining the seat of the Paralysis, the first thing to be considered was the state of the temporal bone. There was nothing which denoted this

to be the seat of the affection: the child heard equally well with both ears, there had been no otorrhœa, and the uvula was perfectly normal If the cause of the Paralysis had been situated in the neighbourhood of the internal auditory meatus, the auditory nerve could not have escaped. It is not easy to ascertain whether hearing be impaired at this age; but the best information is gained from holding a loudly ticking watch to the ear, while the other is closed, and watching carefully the motions of the countenance. The cause could scarcely have been an exudation, or tumour, causing compression at the base of the brain; for here some of the neighbouring nerves must have been also affected; nor was it likely that there was local softening of the paralysed nerve; nor could a purely central origin be reasonably assigned, as this would be likely to affect only portions of the nerve. The only remaining seat of disease, then, was the face. Swelling of the glands, or compression by cicatrices, at the stylo-mastoid foramen, were not present in this case. The Paralysis appeared suddenly, when the child was lying on the floor of a room, with its head on a pillow. Hence a mechanical cause was very improbable; and it seemed most likely that this case had a rheumatic origin.

The short duration of the disease, and its peripheral nature, allowed of a favourable prognosis; although it could not be certainly stated that the child would soon recover. Professor Romberg had sometimes seen such cases recover spontaneously, after he had left off giving medicine for some weeks. As the other symptoms of rheumatism, swelling of the face, sweats, fever, and urinary sediments, were absent, general antiphlogistic treatment was not indicated, especially as the rheumatic nature of the affection could not be asserted with absolute certainty. (*Journal für Kinderkrankheiten*, July and August 1850; quoted from *Deutsche Klinik*, 22nd June 1850.)

M. MARTIN-SOLON ON THE PREPARATIONS OF MALE FERN, AS REMEDIES FOR TAPE-WORM.

M. Martin-Solon, in a paper on the various remedies for Tape-Worm, in the *Bulletin Général de Thérapeutique*, vol. xxxviii, p. 299, observes that, if the high price and scarcity of kousso sometimes render recourse to the Male Fern necessary, the powder of the rapidly dried fresh root should be used. Forty or fifty grammes (ʒx to ʒxiii) should be given during the morning, in divided doses, and a purgative of castor-oil should be administered directly after. The oil of Male Fern, if well prepared, and mixed in quantities of two grammes, with enough powder of fern, or mucilage, to make ten boluses, which are taken in the morning, at intervals of an hour between each, is usually efficacious; it kills the tænia, and often expels it immediately. The same effects result from the extract prepared from the tincture of the buds of the same plants, which is much used at Geneva, and which M. Debout says that he has used with success. He prescribes six grammes, to be taken in three doses, enveloped in unfermented bread, and given at intervals of an hour. It is sometimes necessary to follow the administration of these preparations by a dose of castor-oil in the afternoon. In this respect, kousso has an advantage over the preparations of Male Fern.

COMBINATION OF AUSCULTATION WITH PERCUSSION.

Dr. Roger has called attention to a process, first pointed out by Laennec, in which Percussion and Auscultation are combined. A solid cylinder of cedar-wood is used for Auscultation, while a person well versed in Percussion practises it round the stethoscope, and in the entire extent of the region to be explored. In this manner, we can not only determine the limits of an organ, as of the heart, liver, spleen, or veins, but also those of the cavity which contains any of them.

This process, though possessing incontestable advantages, is opposed by two

serious inconveniences. The first is, the dexterity required to enable us to appreciate the result. M. Roger was six weeks in acquiring this power. The other objection is, the difficulty of introducing into private practice, especially in the country, a process which requires the aid of a second person. The method, however, would be valuable in cases of difficult diagnosis, and in which great precision is required in determining the therapeutic indications. [Abridged from *Bulletin de Thérapeutique*, 1850, vol. xxxviii, p. 475, as quoted from *Comptes-rendus de la Soc. Méd. des Hôpitaux*, April 1850.

SURGERY.

POLYPOUS EXCRESCENCES FROM UMBILICUS IN NEW-BORN CHILDREN.

To the extensive category of affections of the umbilicus, Dr. Farrege has added another, of comparatively small importance, but worthy of the attention of practitioners, on account of the anxiety which it may cause to the mothers. We refer to small polypous excrescences, developed between the furrows of the umbilical fossa. The following case is an example.

In August 1848, a female child, three weeks old, was brought to Dr. Farrége. The mother had observed a red body at the umbilicus, which she attributed to misarrangement of the cord by the midwife. The latter examined the child, but was unable to discover anything, because the body, hidden among the folds of the fossa, only projected when the child cried. On turning aside the edges of the umbilical fossa, M. Farrége discovered an excrescence, of the size of a large pea, red and granulated, and bleeding easily when touched. A ligature was passed round the base, which was pedunculated, and the excrescence fell off on the third day. The wound was touched with nitrate of silver, and the disease did not re-appear. In another similar case, Dr. Farrége excised the pedicle of the tumour by means of scissors curved on the flat surface, and cauterised the wound. To recognise the existence of the disease at the commencement, it is requisite to make a very close examination, taking care to separate the lips of the umbilical fossa, which, in very young children, lie very close to each other. The treatment is very simple, consisting in excision or ligature, followed by cauterisation. [*Révue Méd.-Chir.*, as quoted in *Bulletin Général de Thérapeutique*, 1849, t. xxxvi, p. 42.]

RUPTURE OF THE CRUCIAL LIGAMENT OF THE KNEE-JOINT.

Dr. Stark relates, in the *Edinburgh Medical and Surgical Journal* for October 1850, two instances of an injury, which he believes to have been Rupture of the Crucial Ligament of the Knee-joint. The symptoms, nearly identical in both cases, were the following. There was no dislocation either of the ankle or of the knee-joint; no displacement of the knee-pan; no rupture of the tendo Achillis, or of any of the tendons round the knee-joint. The motions of the ankle, and, when the patient was sitting, of the knee-joint, in so far as its ordinary motions were concerned, appeared perfect. In one case, when the patient assumed the erect posture, the knee-joint was found to be preternaturally moveable; and, whenever any weight was endeavoured to be thrown on the right leg, the knee fell against the left leg, *and bent with equal facility forwards or backwards.* When the legs were extended, the slightest pressure on the patella caused the foot to be thrown upwards, *and the leg could be bent forwards on the thigh to a certain extent.* No pain was complained of in the knee-joint, but only a sensation of weariness; and there was no redness, nor swelling, nor effusion of blood.

Dr. Stark made several trials on the first patient, to ascertain the accuracy of the diagnosis. When the knee was bound tightly with a handkerchief, and kept slightly bent, the patient could almost bear the weight of the body on it; but the moment he endeavoured to straighten the limb, *the knee bent*

backwards under him, and he fell to the ground unless supported. The lateral motion of the tibia on the thigh-bone, though freer than usual, was yet so very limited, that there was no reason to conclude that the lateral ligaments were injured.

The treatment consisted in fixing the limb in a nearly straight position,—just so slightly bent as to allow the flexors of the leg to have a slight advantage over the strong extensors attached to the patella. A strong flat steel spring, fourteen inches long, with a slight curvature, was softly padded, and bound to the back of the knee-joint, half of its length projecting down the back of the leg, half extending along the back of the thigh. The foot and leg, to above the knee, were then bandaged moderately tight. The injury was ultimately recovered from in both cases ; but the knees remained weak, and the patients had to use support for a considerable period. In one case it was five months, in the other three months and a week, before the use of crutches could be dispensed with.

Dr. Stark thinks these cases interesting from their rarity, and from their proving that the injury in question may be perfectly recovered from. He infers, that cure must have been finally effected by a reunion taking place between the ends of the ruptured crucial ligaments.

COTTON-WADDING AS AN APPLICATION TO BED-SORES AND VARICOSE ULCERS.

In the treatment of wounds and ulcers, one great indication is to protect the parts from exposure to the air. Adhesive plasters, and especially collodion, often serve this purpose, but are inapplicable where a large extent of surface is exposed. In these cases, we believe the application of Cotton-wadding to be an effectual means of fulfilling the indication. Mr. Robert Jones, of Conway (*Lancet*, Sept. 27, 1850), relates the case of a girl, aged 16, who had been suffering from typhus fever, and who had an extensive sloughing sore of the nates, with profuse and offensive discharge. Wine and bark were prescribed, and broth and beef-tea were given. Mr. Jones applied some Cotton-wadding to the part, with the view of giving her a soft cushion to lie upon, as well as to absorb the abundant discharge. After the application, she appeared much relieved. On examination, three days after, the parts covering the spine and the crest of the ilium were granulating, the slough covering them had partially separated, and the parts beneath were looking very well. Mr. Jones has also treated successfully a few cases of varicose ulcers of the lower extremities, by the application of Cotton-wadding. The manner of applying it is simply to cover the ulcer, and to dress the patient every second or third day, a roller being applied over the cotton. Perfect quietness, and keeping the limb in the horizontal position, are enjoined; and three weeks or a month are generally sufficient for a cure.

INJURY OF CRANIUM, AND WOUND OF THE BRAIN IN A NEW-BORN CHILD : RECOVERY.

In July 1839, Dr. Lagae was called to a woman, aged 34, who had been in labour forty-eight hours. Unsuccessful attempts had already been made to extract the child by the forceps, and subsequently by Smellie's perforator and a blunt hook. Dr. Lagae found it necessary to perform the Cæsarean operation. The infant was very weak, and scarcely uttered a few moans. It had a very extensive wound of the cranium, a little to the right of the sagittal suture, and a few lines in front of the posterior fontanelle. The brain was exposed, and seemed reduced to a state resembling soup mixed with blood: a small quantity of cerebral substance had escaped through the wound, and, for several days, portions continued to be removed by suppuration, in a state of detritus. The treatment consisted in the application of compresses dipped in cold water ; and the child recovered. The mother was restored to health in a few weeks.

Nine months after, Dr. Lagae exhibited the child to the Medical Society at Roulers. The deficiency in the cranium was then of the size of a two-franc piece, or even less. Even remembering the tendency which the cranium possesses in young children to repair losses of its substance, it must be admitted, that the loss was much more considerable at the time of birth. It is also worthy of remark, that the child appeared to be as intelligent as other children of the same age. (Abridged from *Bulletin Général de Thérapeutique*, 1849, t. xxxvii, p. 92.)

CONGENITAL PROTRUSION OF THE INTESTINES: OPERATION.

Dr. W. M. Fairbrother relates the following case in the *Lancet* for July 20th, 1850. Upon the birth of a child, on the 29th of last June, a large portion of intestine, about twenty-eight inches in length, was found protruding from the navel, dark and discoloured. It had evidently been out of place for many days. On my next visit, the bowels had acted, but were more protruded, with a considerable portion of the mesentery. Dr. Fairbrother made a careful and limited incision downwards in the median line, and, with considerable trouble, reduced the intestine, and applied sutures and a compress. The child, however, died the same evening, with all the symptoms of strangulated hernia

---

DIAGNOSIS AND TREATMENT OF POLYPUS OF THE RECTUM IN CHILDREN.

In children, as in adults, Polypi are situated on a more or less elevated part of the intestine. When they are near the anal orifice they are easily detected, by becoming protruded at each stool; and they may give rise to the supposition that there is a prolapse of the gut. When more deeply seated, a Polypus is less easily detected. M. Guersant insists on the importance, as a sign diagnostic, of a furrow in the fœcal matters evacuated. Its mechanism is too simple to require explanation.

In the treatment, the Polypus is drawn beyond the anus, by means of the finger introduced into the rectum. When the pedicle is very narrow, the tumour may be replaced, as it is not long in falling off; but when the pedicle is larger, a ligature is applied to the base, and the tumour is excised, leaving the ligatured portion. M. Guersaut has never seen troublesome hæmorrhage; but, if it should occur, it could be easily treated by plugging the rectum, or, still better, by the introduction of small pieces of ice, if it can be procured. (*Bulletin Général de Thérapeutique*, 1849, t. xxxvi, p. 230.)

OCCLUSION OF THE VAGINA, THE RESULT OF VAGINITIS FOLLOWING MEASLES: OPERATION.

Mr. Fergusson recently had occasion to operate in a case of this kind. (*Lancet*, 23 Nov. 1850, p. 578.) A similar accident might occur in Vaginitis following the other exanthemata (*vide* London Journal of Medicine, Sept. 1850, p. 869); but only, of course, when there has been extreme neglect.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Special Meeting, Tuesday, October 29, 1850.

Dr. Addison, President, in the Chair.

The following resolutions were brought forward by the Council, and, after discussion, unanimously adopted by the Society.

Society Property. 1st. That the Trustees of the Society be authorised and empowered to sell £600 Stock, to meet the expenses consequent upon the completion of the lease and the repairs of the premises, as authorised by two General Meetings of the Society, held on May 1st, 1849, and July 11th, 1850. 2nd. That the front drawing-room be appropriated to the general uses of the Society, and that the Evening Conversaziones and the Meetings of the Council take place there. 3rd. That the Council be empowered to let the stables, and such portion of the premises as may not be required for the purposes of the Society.

Referees. The following alteration in the bye-laws, chapter xiii, section 6, relating to the Council, was also recommended by the Council, and adopted by the Society, "That the number of Referees be increased from twenty-four to thirty-six."

Tuesday, November 12, 1850.

Dr. Addison, President, in the Chair.

Successful Case of Ovariotomy. By W. E. Duffin, Esq.; with a Description of the Sac, by Robert Lee, M.D., F.R.S. A woman, aged 38, in good general health, with her abdomen enlarged to the size of the eighth month of pregnancy, (this size having been attained in seven or eight months), applied to Mr. Duffin for relief by operation. The rapid growth of the tumour, which appeared to be connected with the left ovary, had been accompanied by neuralgic pains in the right thigh, in consequence of pressure on the sciatic nerve of that side. The tumour was very moveable, indicating the absence of adhesions. The patient was very urgent in her desire for the operation, which was performed, on the 27th August, by Mr. Duffin, assisted by Professor Fergusson, and Messrs. Ure, and Henry Smith. The incision, at first only sufficient to admit the fore-finger for exploration, afterwards enlarged to three inches, was made in the linea alba, midway between the umbilicus and the pubes. The absence of adhesions having been ascertained, the sac was punctured by a trocar, and one hundred and thirty ounces of a viscid, ropy fluid, of a light brown colour, were evacuated. The collapsed cyst (containing a smaller cyst, of the size of an orange) was drawn through the incision, and its pedicle secured by ligatures. The tumour was then separated; and the pedicle and ligatures were prevented from receding into the cavity of the abdomen, by other ligatures attaching them to the wound. The ligatures came away on the fifteenth day. On the twenty-second day, the wound had healed; and the abdomen had resumed its natural shape and size. The patient was kept on a light diet; for six successive nights, after the operation, she took opium; and her bowels were opened by enemata. Her recovery was complete; and she had resumed her occupation of a dressmaker.

Dr. Lee found that the walls of the cyst contained all the elementary structures which enter into the composition of the healthy human ovary; peritoneum, stroma, Graafian vesicles, blood-vessels, and ganglionic nerves.

ANALYSIS OF ONE HUNDRED AND EIGHT CASES OF OVARIOTOMY WHICH HAVE OCCURRED IN GREAT BRITAIN; BEING ALL THE CASES OF WHICH THE AUTHOR COULD OBTAIN SUFFICIENTLY AMPLE DETAILS. By ROBERT LEE, M.D., F.R.S. In thirty-seven cases, either no ovarian cyst, or tumour to remove, existed, or there were present ovarian cysts and tumours, the removal of which was found to be impracticable. Of these thirty-seven cases, fourteen were fatal. Of the seventy-one cases, in which ovarian cysts and tumours were removed, twenty-four proved fatal; in fourteen of which, the operation could not be completed. It appeared, that of the one hundred and eight cases analysed by Dr. Lee, forty-five were reported by Dr. Clay, and eleven by Mr. Lane.

MR. CÆSAR HAWKINS complained that a gentleman present (Dr. Frederick Bird) had not made his experience of Ovariotomy available to the profession.

DR. FREDERICK BIRD was surprised to find that his cases were not included in Dr. Lee's analysis. He had certainly declined to give Dr. Lee the details of his cases, as he was going to publish them himself: but he had furnished Dr. Lee with the results; having, by letter, stated that he had extirpated ovarian tumours twelve times; eight times successfully, and four times unsuccessfully.

DR. LEE replied, that he could not, in consistency with the plan and object of his paper, make any use of the bare facts intimated to him by Dr. F. Bird. Not only were the details of the twelve cases withheld, but no information was given of cases in which it was known that Dr. Bird, after making incisions in the abdomen, had abandoned the operation.

DR. F. BIRD had made in very many cases—perhaps in forty or fifty cases—small exploratory incisions. This was quite safe, and none of his patients had died from this method of diagnosis having been resorted to.

DR. LEE. In one case so explored by Dr. Bird in the Free Hospital, he had heard that death ensued.

DR. F. BIRD. In that case, Ovariotomy was never contemplated. A small incision was made previous to tapping.

MR. B. PHILLIPS eloquently denounced the practice, now, he said, so common, of surgeons publishing only their successful cases. No man is bound to publish his experience; but if he publish his successful experience, he cannot honestly keep back his unsuccessful cases. *The truth* means *the whole truth*. Judged by the information brought forward in Dr. Lee's paper, we find that the abdomen has been laid open many times, when there was no tumour in it: that the operation has been performed in this country seventy-one times, and that forty-seven patients have recovered. And from Dr. F. Bird's statement it is made evident, that so difficult, so valueless is the diagnosis, that he has commenced the operation, that is to say,—that he has made an exploratory incision into the abdomen—forty or fifty times, without being able to proceed with the operation.[1]

MR. I. B. BROWN explained his operation. (*Vide* p. 1189.)

MR. LAWRENCE spoke at considerable length against Ovariotomy. He was not more friendly to Mr. Brown's method of cure, which he had long since seen tried with unfavourable results. How could it be otherwise? Ovariotomy, with all its dangers, has the merit of extirpating the disease; but the plan of making an excretory duct—an "oviduct" as the gentlemen called it—proved hazardous by lighting up inflammation in the great

[1] In the *Lancet* of the 23rd November 1850, p. 592, Dr. Bird has modified his statement by reference to his notes. He says—"I have extirpated large ovarian tumours in thirteen cases, of which number nine were successful, four unsuccessful: in one case the tumour could not be extirpated, and the patient sank. In eighteen other cases, I have made small incisions, as a means of diagnosis or relief, and in no case did a bad result ensue from such incisions, leaving a total of thirty-two cases, in the treatment or investigation of which the abdominal cavity had been incised".

mass, covered by peritoneum, and in immediate contact with the abdominal viscera.[1]

MEDICAL SOCIETY OF LONDON.

November 2, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

On the Health of London, during the period from 30th March to 28th September 1850. By John Webster, M.D., F.R.S. [This paper is published as an original article at page 1115, in the present number.] The discussion was adjourned.

November 9, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

Adjourned discussion on Dr. Webster's paper. Dr. C. J. Hare was desirous of correcting some statements made by Dr. Webster, with reference to the mortality in the metropolitan hospitals. Dr. Webster had stated that the beds in University College Hospital amounted to only 106, whereas the real number was 122. Besides, the number of beds in a hospital was no criterion of the number occupied. On March 31, 1850, the Royal Free Hospital, which was reported as containing 140 beds, had only 52 in-patients; King's College Hospital, stated to have 120 beds, had 96 in-patients; and University College Hospital, said to have 106 beds, had 113 in-patients. At a later period, the latter institution had contained 122 inmates. Even supposing that the number of beds, or even of admissions, had been correctly given, no inferences could be drawn therefrom as to the relative mortality; and some very different results from those in Dr. Webster's table might be obtained, by comparing the number of deaths with the average number of patients in each hospital.

Dr. Sibson remarked, that the previous condition of the patients, the nature of their diseases, the situation of the hospital, and other circum-

[1] There can be no doubt of the general truth of Mr. Lawrence's remarks; but it has yet to be seen that they apply so forcibly, as he supposes, to Mr. Brown's operation. One of that gentleman's cases undoubtedly recovered from the operation, without having had dangerous intra-abdominal inflammation: and we cannot help thinking that, by farther experience, the operation may be so modified as to prove a valuable practical improvement. We must say, however, that we fear ovarian tumours are far too often interfered with: and that, upon the whole, the greater prevalence of operative interference with them in later years has *increased* their mortality. The analysis of cases by Dr. Lee is an important contribution to science; and confirms the conclusions of a reviewer in the *Edinburgh Monthly Journal* for January 1844 and May 1845. When a case is reported as "cured" by Ovariotomy, a long period must have elapsed before we can declare the result to be really successful. On this point, a speaker at the Edinburgh Medico-Chirurgical Society (17 Dec. 1845) made the following remarks: "For a special reason which does not apply to other operations, the statistics of Ovariotomy are comparatively valueless. In such an operation as Ovariotomy, *the very reparative process* becomes an imminent and inevitable source of peril, and had, he believed, in cases the latter history of which was known only by rumour, been the ultimate cause of death. To repair the extensive cutting of the ovariotomist, nature must pour forth in abundance coagulable lymph; and every one knows that in all situations in which lymph is thrown out, it exerts an inherent tendency to the most powerful contraction". Referring to eighty-nine cases then before the profession, the same speaker concluded by stating three objections to Ovariotomy. 1. The difficulty of diagnosis. 2. The non-fatal character of ovarian tumours. 3. The immense and inevitable dangers of the reparative process. *Edinburgh Monthly Journal*, January 1846, p. 53—67. The report of this discussion on Ovariotomy embraces an elaborate speech by Dr. Simpson, which, as well as the remarks of other speakers, will well repay perusal. Editors.

stances, were necessary to be known, before a right conclusion as to the relative mortality of a hospital could be arrived at.

Dr. Webster had used every means to make his statistics accurate, but should be happy to have any of them corrected. He had obtained the number of beds at University College, and several other hospitals, from the medical officer of those institutions. The discussion clearly indicated the advantage of having regular statements from all the metropolitan hospitals.

Dislocation of the Distal Extremity of the Great Toe. Mr. Coulson exhibited two specimens of this dislocation, in different degrees of intensity. The internal lateral ligaments in both cases were thin, and spread out over the projecting coridyles. In the joints, the cartilages were beginning to be absorbed on the part of the metatarsal bone, from which the phalanx had been dislocated. Mr. Coulson believed that the wearing of shoes had nothing to do with this deformity. The cause was to be found in the muscular and ligamentous apparatus connected with the sole of the foot, for the purpose of strengthening the anterior part of the metatarsal region. The muscular forces acting on the great toe, and on its metatarsal bone, are not the same. The long tendons have a tendency to carry the toes outwards; but the oblique abductor and the transversus pedis, and even the flexor brevis pollicis, seem to draw the metatarsal bone outward, especially at its distal extremity. When, from various causes, the transverse and oblique muscles lose their energy, the distal extremity of the metatarsal bone of the great toe is no longer held in proximity to the others; the foot spreads; the inner condyle projects inwards; and the phalanges of the great toe, being acted on by the long flexor and extensors, are carried outwards.

On the Treatment of Ovarian Dropsy by the formation of an Artificial Oviduct. By Mr. I. B. Brown. Mr. Brown brought before the notice of the Society his lateral operation for Ovarian Dropsy, of which an account was given at p. 202 of the London Journal of Medicine for February 1850. Instead of making two incisions, at right angles to each other, he now found one sufficient. He related three cases on which he had operated. The first patient died a month after the operation, chiefly from disease of the heart; which had been diagnosed during life. The second patient apparently recovered, and was able to attend to her household duties, and to walk out; but was attacked, in four months, with vomiting, paralysis, and coma, apparently from renal disease, and died. In the third case, that of a multilocular cyst, the patient died a month after the operation. In the second and third cases, purulent matter was found in the ovaries, or cysts, on post-mortem examination.

At the conclusion of his paper, Mr. Brown gave the following practical deductions:—

1. Pressure was applicable as a remedy in certain cases of Ovarian Dropsy; for example, where the disease was unilocular, without adhesions, and the fluid contents of the cyst were clear and not albuminous, and when time and the general condition of the patient, did not contra-indicate this proceeding.

2. Pressure would relieve and retard ovarian disease, even when it was multilocular, and adhesions exist.

3. Where pressure had failed, or was contra-indicated, and the cyst, or cysts, were without adhesions, extirpation was a remedy which might be adopted; but, before doing so, except in rare cases, pressure should have a trial.

4. Where the extent and character of the adhesions forbad extirpation, and pressure had failed, or was inapplicable, the lateral operation afforded a ready and promising means of cure.

5. This mode of operating was attended with but slight danger, besides being easy of execution. In support of his position, that the danger was

small, Mr. Brown stated, that, in the many operations in which he had had occasion to cut through the peritoneum, no untoward result had followed.

Mr. Hird and Dr. Tilt opposed the practice advocated by Mr. Brown.

Dr. Pettigrew and Mr. Nunn spoke in favour of the operation.

Dr. Murphy complained of the unsatisfactory nature of the statistics of ovarian operations. What was the principle on which Mr. Brown's operation was founded? He would, if interference were demanded, give the preference to pressure, over ovariotomy.

November 16, 1850.

J. Risdon Bennett, President, M.D. in the Chair.

Mercurial Treatment of Syphilitic Eruptions. By Mr. Hunt. The following were the propositions which Mr. Hunt supported:—1. Mercury is capable of curing, or aggravating, Syphilitic Eruptions, according to the mode in which it is administered. 2. Syphilitic Eruptions do not get permanently well without Mercury.

November 23, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

On Subcutaneous Bursæ. By Mr. Coulson. After making some preliminary remarks, and detailing the situations in which Subcutaneous Bursæ are found, Mr. Coulson made some observations on the enlargement to which they are subject. The treatment which he recommended, in preference to all other methods, was puncture with a grooved needle, followed by pressure. This plan he considered generally applicable, and very successful. There was, indeed, a tendency to accumulation in some cases; but this could be overcome by perseverance. [This paper will appear as an original article in our January number.]

SURGICAL SOCIETY OF IRELAND.

April 28, 1850.

Andrew Ellis, Esq., in the Chair.

Aneurism of the Heart. By J. Tufnell, Esq. Case. The patient was a fine young man, aged 21, who had enjoyed uninterrupted good health until three years since. He had afterwards, in succession, chancres, suppurative bubo, acute pneumonia, hepatitis, and subsequently severe rheumatism, the serous coverings of the organs being considerably affected. The rheumatic attack took place in the autumn of 1848, and was followed by a relapse in two months, the pericardium being each time engaged. Calomel and opium were resorted to upon both occasions, the lancet not being used. He was apparently in perfect health in February of the present year.

Towards the latter end of this month, Mr. Tufnell saw him in consultation, for a painful affection of the lower end of the right femur, consequent upon a process of bone which interfered with the use of the joint. The integuments on the outer side of the lower third of the thigh were swollen and tender, and were protruded directly outwards by a hard pointed tumour, evidently a process of bone, which stood out from the condyloid ridge between the vastus externus and biceps muscles, so as materially to interfere with the action of the hamstring tendon. It was resolved to remove the growth; but, the integuments over the tumour being much thickened and inflamed, it was deemed desirable that the patient should rest for some days; and as he could not then do so, the operation was deferred.

He remained in apparent health until the middle of March, when, about seven o'clock one morning, whilst dressing, he said that he felt indescribably weak, so much so that he was certain he was going to die. Subsequently, however, he ate his breakfast, and seemed to forget his forebodings; but at half-past nine, he fainted and fell to the ground. He was insensible when taken to bed, the hands and extremities cold, the face deadly pale. This

state continued for some time; but by means of external warmth and ammonia, heat was gradually restored, reaction ensued, and he seemed considerably revived. Soon, however, the dyspnœa became excessive, the patient calling continually for air, and begging to have the *weight removed off his heart.* He died at half-past 4 P.M.

Post-mortem Examination 30 Hours after Death. The body presented the appearance of a very finely made muscular man, the skin of a natural colour, neither livid nor unusually pale: no trace of œdema in the lower extremities. The contents of the cranium were healthy, and the brain showing an ordinary number of vessels upon its substance being cut across.

The pericardium was enormously distended with black venous blood, which was found partly coagulated, and partly fluid. Through the midst, projected an aneurismal tumour, its apex pointing obliquely outwards to the left side; and, upon removing the contents of the pericardium by a stream of water from a syringe, the aneurism was seen to arise from the left side of the anterior surface of the base of the left ventricle. Proceeding a short distance vertically upwards, it assumed a semicircular form, passing obliquely backwards, overlapping to a certain degree the auricle of that side, and compressing the auricular appendage, which lay beneath it shrivelled and curled up. From the anterior surface of this sac, projected an additional pouch, its cavity appearing capable of holding a marble, whilst the larger one would easily contain an egg. The sac was densely firm and *entire throughout*, not exhibiting the minutest opening for the escape of the blood. Round the circumference of the tumour ran the coronary vein, nodulated and enlarged, presenting the appearance of a succession of pile-like tumours. At this point the coagula were intimately attached, and here there was a discoloured spot, where the vein must have burst. The heart was enlarged, and more than ordinarily covered with fat. The visceral pericardium, at its apex, was united by strong bands to the reflected portion; both appeared to have been the subjects of inflammatory action. On removing the heart, the lining membrane, and the whole of the valves on the right side, were natural in every respect. On the left side, the endocardium was healthy, as well as the mitral and aortic valves; but, opposite to the opening of the aorta in the ventricle, above and in front of the right segment of the mitral valve (but not in any way interfering with its action), was the mouth of the Aneurism, perfectly circular in form, and capable of admitting the point of the forefinger, and surrounded by a fibrous ring, apparently developed from the endocardium alone. The sac itself appeared to be formed of this membrane and the pericardium, the muscular structure being almost altogether absorbed. On the superior surface of the sac, the reflected pericardium was adherent, giving it additional support. The aorta was of natural size and thickness, but studded with minute points of atheromatous deposit. The other viscera presented no remarkable appearance.

Remarks. This case tended to establish the correctness of the observations of Dr. Thurnam, in his paper on Aneurism of the Heart, published in the *Medico-Chirurgical Transactions* for 1838. Dr. Thurnam had remarked, "that in one case only of all that he adduced, did rupture of the sac occur when there was adhesion between the pericardium and the aneurismal portion of the heart." In this case, the sac was entire, the point opposite to the influx of blood having the pericardium adhering to it. Indirectly, however, Mr. Tufnell regarded this circumstance as being the immediate cause of death, for the pericardium, being attached below to the apex of the heart, and united to the tumour above, prevented further dilatation of the sac, held it firmly down upon the coronary vein, and, by the compression thus induced, led to rupture of this vessel. This probably took place when the patient complained of weakness, at 7 in the morning. 2. Dr. Thurnam had called attention to the portion of the organ in which this lesion was universally developed; viz., the systemic side. He accounted for this in a two-fold manner; firstly, because

regurgitation of superabundant blood into the auricle, did not occur in the left or systemic heart; and secondly, he referred its occurrence to the physical condition of this part, the vital endowment of its blood, and the assimilation of its diseases to those affecting its arterial continuation. *Here we found the systemic side to have been the seat of disease.* 3. He regarded Aneurism of the Heart, as *par excellence* the disease of adult, as that of the arteries is of middle life. He considered the lesion to arise from rheumatic inflammation, which rendered the heart less able to bear the distending force of the ventricular systole, and to be thus connected with the young, from their predisposition to acute rheumatic disease. *In the present case, the patient had suffered from rheumatic attacks, and his age was but* 21. 4. Dr. Thurnam had shewn that the seat of true Aneurism of the Heart was either at the apex or highest portion of the base, those being the thinnest portions of the organ and the least able to withstand distending force. *The base was that affected here.*

Aneurism of the Apex of the left Ventricle, followed by Pericarditis. By O'B. Bellingham, M.D. Case. J. N., a servant, aged 50, was admitted into St. Vincent's Hospital, August 11, 1849. Three weeks ago, he complained of debility and oppression of breathing, which was relieved by treatment. Two days ago, hemiplegia of the right side with total loss of speech set in, the mouth being drawn to the right side. On admission, the countenance was pale and haggard, he was unable to speak, but was conscious and put out his tongue when desired, which was deeply coated with white fur, and drawn towards the affected side. The paralysis of the face had disappeared, and the hemiplegia had diminished. Since the attack, he had been unable to lie down from dyspnœa. On examination of the chest, signs of congestive bronchitis upon both sides were evident. The heart's action was strong: no valvular murmur was heard, but the sibilant and sonorous râles were sufficiently loud to mask it, even if it had been present. Radial pulse visible, locomotive, and intermittent. The patient died on August 15th.

Post-mortem Examination. On removing the calvarium, a considerable amount of fluid blood escaped. The veins of the brain were much congested, but there was no evidence of the rupture of any vessel, either upon the surface or in the substance of the organ. The ventricles contained the average amount of liquid. The brain was healthy. The anterior surface of the heart was coated with a thin layer of recent lymph; posteriorly, the opposed surfaces of the pericardium were connected by recent and friable adhesions. The heart was much enlarged, weighing 20½ ounces; the left ventricle predominated much over the right. Near its apex, the left ventricle presented a rounded prominence upon both surfaces. The parietes at this part were thinner and of darker colour than elsewhere. The ventricle was dilated at its apex into a rounded cavity, about the size of a small hen's egg, which was nearly filled with layers of fibrine, coloured with the red particles of the blood. The parietes of the pouch were thinned, in one place exceedingly so, and very friable, so as to be readily torn with the finger. The upper part of the cavity presented nothing abnormal. The walls of the sac were formed by the muscular fibres of the ventricle, and by the endocardium and pericardium. The sac did not open into the ventricle by a narrow mouth; it appeared to have been formed in a great measure by the yielding or partial dilatation of the walls of the ventricle. The mitral and aortic valves were healthy; the lining membrane of the aorta, near its origin, presented some patches of adventitious deposit. This case was interesting as an example of the manner in which nature strengthens the parietes in such cases, and postpones the fatal result. Pericarditis had been set up, and a layer of lymph had been effused, which, if the patient had lived, would have ended in adhesions between the opposed surfaces of the pericardium, and would thus have strengthened the parietes of the heart at the weakest point.

Successful Excision of the Elbow. By H. Thompson, M.D. J. McG. ætat. 13, of healthy appearance, was admitted into the Tyrone Infirmary, on the 19th of December, 1849, labouring under disease of the left elbow. The left arm was fixed in a very nearly straight position, the elbow-joint admitting of scarcely any motion, and any attempt to move it producing severe pain. The flexure in front was filled up, and all the bony prominences obscured by a swelling, which extended from the middle of the arm to the lower margin of the upper third of the forearm, increasing the circumference three inches beyond that of the opposite side. The integuments were adherent, rather pale, with blue veins ramifying over them, and the surface was smooth and uniform, except in the situation of the outer condyle, where a prominent deep red and soft elevation indicated the pointing of an abscess. From this, and from the site of a fistulous opening, which existed about two inches above the inner condyle, a gradually diminishing shade of redness diffused itself over the neighbouring parts. A fungoid granulation projected from the fistulous opening, which yielded a small quantity of thin discharge; and a probe, passed downwards and outwards towards the centre of the articulation, encountered a piece of bare and roughened bone. He suffered little pain when he kept the arm steady, but at night it frequently prevented sleep. The sensibility and mobility of the hand and fingers were perfect. His general health was pretty good, but his pulse was small and 120; and he never slept without perspiring slightly about the head.

Ten weeks before admission, he had fallen off a ditch; the arm bent under him with a cracking noise, and he suffered so much pain as to be disabled for that day. On the next, however, he was so far recovered as to be able to use the limb. In the evening, pain set in; and next morning the joint was swollen. From this, the disease went on; but nothing was done for it until about a month ago, when an abscess was opened, which pointed above the inner condyle of the humerus, and a small quantity of sero-purulent fluid was discharged without relief.

Operation. This was performed on December 28th. The boy was placed on his right side on a table. Chloroform was administered until he was perfectly under its influence, and the brachial artery compressed by a finger. Along the radial side of a line following the course of the ulnar nerve, Dr. Thompson made an incision four inches long, the centre corresponding to the articulation. From the middle of this, another incision was carried transversely outwards to the extent of three inches, traversing the abscess, which contained a straw-coloured sero-purulent fluid, and laying thus open the cavity of the joint. The two triangular flaps thus formed were then dissected off the bones, and the soft parts cleared away from the olecranon, which was cut off at its base by means of bone-forceps. About half an inch more of the ulna, which was in a carious state, was then removed, together with the head of the radius, the cartilage of which was beginning to ulcerate. The arm now admitted of flexion, and, by bending it up, the end of the humerus was thrown out of the wound. This was examined, and the trochlea found completely destroyed, an abscess occupying the cancellar structure of the bone, which contained a loose piece of dead bone, and communicated by a large opening with the cavity of the joint. The cartilage covering the capitulum was healthy; and posteriorly a carious spot, about the size of a shilling, was found in the fossa which lodges the olecranon. The bone was divided above this carious spot, by means of a narrow saw passed in front and worked backwards. This completed the operation, which occupied about fifteen minutes, during the whole of which time the boy was kept under the influence of chloroform. No vessel was required to be tied. The arm was placed in the flexed position on a bent tin splint; and subsequently, when suppuration had take place, and the swelling and inflammation was beginning to subside, a gutta percha case was adapted to the front of the limb, so as to keep it flexed to about half a right angle, and admit of the wound being dressed without

removal. The wound healed by granulation, and a firm and healthy cicatrix was the result. He had, on April 19, 1850, perfectly regained the power of flexion of the limb, and could perform pronation and supination to a sufficient extent for any useful purpose. The unnatural effects which had resulted were, a degree of over-extension, or backward bend, to the extent of about the eighth of a right angle, and a degree of abduction of the fore-arm occurring during flexion, and produced by the action of the supinator longus, to the extent of about an angle of 45. The bones appeared to be connected by a condensed fibrous tissue, about half an inch in extent. The limb was three-quarters of an inch shorter, and the circumference at the elbow half an inch greater than the opposite : the muscles of the arm were smaller than those of the other, but there was no difference in those of the fore-arm.

April 28, 1850.

Andrew Ellis, Esq., in the Chair.

Peculiar Accident of Shoulder-joint. Dr. Jacob directed the attention of the Society to a case, reported in the *Medical Gazette* of the 6th of April, in which the scapula seemed to be thrown out from the ribs, so as to project from the patient's back. Mr. Adams, of the London Hospital, regarded it as a dislocation of the scapula, in consequence of its escaping from beneath the edge of the latissimus dorsi. It appeared to be a rare accident ; and Dr. Jacob's object was to suggest what was the real nature of the injury, which was, in his opinion, so very manifest, that he was at a loss to conceive how it could have been mistaken. The same journal, for 20th April, contained an account of an analogous case by Mr. Rose, of Swaffham.

The above writers seemed to consider this remarkable displacement as nothing more or less than a dislocation of the inferior angle of the scapula from beneath the latissimus dorsi—a notion which was erroneous, because no such use could be assigned to the soft structure of such a muscle as the latissimus dorsi, as that of keeping the scapula *in situ*. Were this the case, very slight efforts would be sufficient to dislocate the bone, and no muscle would be capable of withstanding the stretching and pressure made upon it, nor would the pain be tolerable. Many years ago, a case came under his observation, on a careful examination of which, the real nature of this accident struck him with much force. A man, who was carrying a heavy board upon his shoulder, suddenly slipped and fell down. He complained of his shoulder, but the lower extremity of the scapula was elevated from the ribs, drawn towards the spine, and depressed. The moment, however, the scapula was pressed up into its proper situation, the coracoid process, previously lowered, went into its usual place ; and he had therefore no doubt, that the coraco-clavicular ligament had given way, and that the scapula, and along with it the arm, went down under the weight of the limb.

After an address from the President, the Society closed its meetings for the Session.

INDEX TO THE VOLUME FOR 1850.

Abdomen, catalogue of papers on diseases of, 767
Abercrombie, Dr., case of disease of spinal cord, 13
Abortion, inflammation of cervix uteri a cause of, 153; chloroform in, 305
Abscess in neck after scarlatina, Dr. R. J. Hale's case of, 720
Acton, Mr., on venereal ulcers, 206; on M. Ricord's treatment of venereal diseases, 605
Adams, Dr. James, on fever in hospitals and out of them, 880
Africa, Eastern, M. de Froberville on Ostro-negroes in, 48; Western Coast of, Dr. W. F. Daniell on Diseases of, *rev.*, 492
Age, influence of on phthisis, 37; on the frequency of the pulse, 1064
Air, effect of injection of into an artery, 239; Dr. Cormack on entrance of into uterine veins, 589, 928; case by Dr. Bessems, 942; by M. Lionet, 944; by Dr. Wintrich, 946; by Dr. Simpson, 946; cases of entrance by veins in neck, 929, 933; by subclavian vein, 936
Air-passages, catalogue of papers on surgical diseases of, 767
Albumen, Dr. Haas on increase and diminution of, 648
Albuminuria, Dr. S. Alison on tannic acid in, 4; M. Landouzy on connexion of with amaurosis, 186; case of, simulating cerebral disease, 451; Dr. C. J. B. Williams on treatment of in heart-disease, 469; transient, M. Bouchat on, 500; pathology of, Drs. G. Johnson and C. J. B. Williams on, 502; Dr. G. O. Rees on Nature and Treatment of, *rev.*, 565; Dr. Bence Jones on, 963; relation of to puerperal convulsions, Dr. Blot on, 1082; Dr. Cormack on, *ibid.*
Alcoholic liquors, Dr. Haas on effect of, 646; Drs. W. B. Carpenter and S. Thomson on the use of, *rev.*, 1058; poisoning by, Dr. James Bird on, 419; diagnosis from poisoning with stramonium, 426
Alimentary canal, catalogue of papers on diseases and injuries of, 767
Alison, Dr. Scott, on tannic acid in disease, 1
Alkalies in phthisis, Dr. Turnbull on, 119
Almond-oil a substitute for cod-liver oil, 398
Alum in croup, 186
Amaurosis, M. Landouzy on connexion of with albuminuria, 186; granular corpuscles in optic commissure in, 570
American reprinting, remarks on, 275
Amphibia, Dr. Haas on summer-sleep of, 644
Anæmia, Dr. C. J. B. Williams on treatment of, in connexion with heart-disease, 466; Mr. Syme on connexion of with goître, 1098
Anæsthesia in midwifery, Dr. Waller on, 77; Drs. R. Barnes and Sachs on, 1076. *See* Chloroform
Anæsthetic substances, Mr. Nunneley on, 63; chemical nature of, 63; effects of, with experiments, 64; effect of injection into veins, 69; of administration by alimentary canal, 69; of prolonged inhalation, 69; local action of, 70; questions relating to, 71; treatment of poisoning by, 73
Anasarca, Dr. A. Kilgour on treatment of, 991
Anatomy and Physiology, Mr. Goodsir's Annals of, *rev.*, 380; catalogue of papers on, 971
Anderson, Mr. W. C., on Eccentric Nervous Affections, *rev.*, 755
Andrews, Dr., case of injury of pelvis during pregnancy, 1093
Aneuralgicon, Dr. Downing on the, *rev.*, 46
Aneurism of anterior palatine artery, 806; of left posterior communicating artery, 824; of superior mesenteric artery, 1094; of popliteal artery, treated by compression, 1101; of heart, 1190, 1192
Aneurismal varix, Mr. Cadge's case of, 126
Angina membranacea, Dr. R. Bennett on, 1089
Annals of Anatomy and Physiology, Mr. Goodsir's, *rev.*, 380
Anterior palatine artery, cases of aneurism of, 806
Antimony, tartarised, in insanity, 1181.
Antiseptic, tannin as an, 1070
Antispasmodics in heart-disease, Dr. C. J. B. Williams on, 462
Apoplexy, Dr. Thomas Smith on turpentine in, 345; cerebral, in children, Dr. Elsässer's cases of, 496, 1174
Apothecaries, review of former and present position of, 553
Apothecaries' Society, Regulations of for 1850, *rev.*, 479, 487; Regulations for various years, *rev.*, 651; influence exerted by on medical education, 651
Apothecary, W. Bullein on the duties of an, 555
Appointments, 104, 216, 310, 406, 506, 610, 809, 921, 1017, 1114
Apprenticeship, Mr. Skey's remarks on, *rev.*, 481; advantages of, 555
Arachnoid membrane, adventitious deposit on, 448; hydatids beneath, 453; hæmorrhagic membrane in, 1096
Arcus senilis, Mr. Canton on, 90
Arm, anomalies in muscles of, 690
Arsenic in unfermented bread, Dr. Henry on, 191; in skin-diseases, Mr. Hunt on, 855; post-mortem appearances after poisoning by, 1097; report of committee on sale of, 912
Arteries, Dr. Flood's Surgical Anatomy of, *rev.*, 142; diseases of, in connexion with heart-disease, Dr. C. J. B. Williams on treatment of, 471; of brain, Dr. Cormack's case of disease of, 599
Artery, posterior communicating, aneurism of, 824
Artificial anus, Mr. Field's case of, 195; Mr. Clarkson's case, 196; Mr. Hilton on, 197; Mr. Coulson on, 198; Mr. Hodgson on, 198; Dr. Pennell's case of, 905
——— pupil, in conical cornea, Mr. White Cooper on, 526
Asphyxia from entrance of air into veins, Dr. Cormack on, 933
Asthma, chloroform in, 987
Astringent, tannic acid as an, Dr. S. Alison on, 3; Dr Cummings on, 1069; oil of turpentine as an, 328, 330
Astringents in conical cornea, Mr. White Cooper on, 535
Atelectasis pulmonum, Dr. Elsässer on, 497, 1178
Atmosphere, Dr. Webster on, as influencing health, 546, 1126
Atrophy of bone, Mr. Stanley on, 489
Atropine prepared by means of chloroform, 1086
Auditory nerve, Mr. H. Gray on development of, 984
Aurora Boréalis, Baron von Reichenbach on, 838
Auscultation combined with percussion, 1182

Bacon, injunction with in scarlatina, 865
Bagot, Dr., on cod liver oil, 1103
Bailey, Mr. Gordon, case of synovitis during dentition, 585
Baly, Dr, on typhus and typhoid fevers, 80; on the cause of cholera, 295; chloroform in cholera, 987
Barclay, Dr., on typhus and typhoid fevers, 80
Barlow, Mr. W. F, on the relation of epilepsy to puerperal convulsions, 88; on the causes of cholera, 295; on phenomena observed after death from cholera, 889
Barnes, Dr. Robert, on scarlatinal vaginitis, 869; on anæsthesia in midwifery, 1076
Barometer, Dr Webster on variations in, as influencing health, 547, 1126
Barrow, Mr. C. B., on chloroform in facial neuralgia, 990
Basham, Dr. on the blood in cholera, 296; case of stricture of œsophagus, 501
Batchelder, Dr., on Cholera, *rev.*, 1170
Bath, new medical members of order of, 918
Battersby, Dr. F., on chronic hydrocephalus, with cases in which the head was punctured, 782; case of milk in breasts of a male infant, 1106; congenital hypertrophy of toes, 1109
Battye, Mr. R. F., case of cranial tumour in an infant, 987
Beardsall, Mr., on chloroform in asthma, 987
Beck, Dr. Snow, on erectile tissue in cervix uteri, 588; on pain in disease of cervix, 588
Bed-sores, cotton-wadding as an application to, 1184
Begbie, Dr., on erythema nodosum and its connexion with the rheumatic diathesis, 774
Bell, Dr. Charles, cases of trismus and hemiplegia after delivery, 1099; case of twins, 1099
——— Mr. Joseph, on Cholera, *rev.*, 1170
Belladonna in nervous affections, 386
Bellingham, Dr. O'Brien, on mortification of feet from cold, 1105; case of wry-neck cured by division of the sterno-mastoid, 1108; on early operation in hare-lip, 1109; case of aneurism of heart, 1192
Bennet, Dr. Henry, on the relation between uterine irritation and epilepsy, 89; on Inflammation of the Uterus and its Appendages, *rev.*, 146; on acute metritis, 146; chronic metritis, 147; uterine catarrh, 147; inflammation of lateral ligaments, 151; inflammation of neck of uterus, 152, 164; uterine polypi with inflammation, 158; syphilitic ulcerations of neck of uterus, 161; cancer of uterus, 162; uterine speculum, 172; on chloroform in midwifery, and as a sedative of uterine pain, 265; on ulceration of cervix uteri, 578; on relation between uterine and ovarian disease, 588
Bennett, Dr. J. Hughes, on Skin-Diseases, *rev.*, 848
——— Dr. J. Risdon, Introductory Address at opening of Medical Society, 1089; on angina membranacea, 1089
Benson, Dr., on cod-liver oil as a cause of pulmonary congestion, 1101; case of retention of urine, 1103
Bessems, Dr., case of entrance of air into uterine veins, 942
Bethlem Hospital, instruction at, 919
Betz, Dr. on goitre in new-born children, 1072
Bicêtre, statistics of for 1849, 505
Bigelow, Dr. H. J., case of recovery from iron rod driven through head, 893
Biographies of living medical men in *Lancet*, 1017
Bird, Dr. James, on intestinal ulcers in diarrhœa and dysentery, 86; on delirium tremens, epilepsy, and puerperal convulsions, 95; on the types of delirium tremens, 419
Birkett, Mr. John, on Diseases of the Breast, *rev.*, 1169
Bladder, Dr. Lankester's case of malignant disease of, 298; Mr. Coulson on diagnosis of disease of, 300; M. Malgaigne's case of extraordinary distention of after delivery, 395; Dr. Wardell's case of death from hæmorrhage into, 586; paralysis of, treated by strychnine, 882; extension of gonorrhœal inflammation to, 895; case of perforation of, 1013
Blake, Dr. James, on the quantity of blood in the body, 50
Blancard, M. on preservation of pills of iodide of iron, 1087
Blanchet, M., on chloroform in lead colic, 285
Blisters produced by burning, Dr. Wright on, 754
Blood, Dr. J. Blake's method of determining the quantity of, 50; effects of pus and other foreign substances on coagulation of, 217, 231, 614; in cholera. Dr. R. D. Thomson on, 294; in heart-disease, Dr. C. J. B. Williams on, 317, 465; in albuminuria, Dr. G. O. Rees on, 566; in chlorosis and pregnancy, M. Cazeaux on, 576; detection of uric acid in, Dr. Garrod on, 584; Dr. Bence Jones on, 959; Dr. Snow on detection of chloroform in, 602; Dr. Panum on casein in, 685; Dr. Parkes on excess of white corpuscles in, 691; Dr. Haas on means of altering quantity of, 716
Blood-letting in heart-disease, Dr. C. J. B. Williams on, 461
Blot, Dr. H., on albuminuria and puerperal convulsions, 1082
Bofareira. *See* Castor-oil plant.
Bone, Mr. H. Lee on absorption of matters from into veins, 226; Mr. J. Goodsir on seat of morbid action in diseases of, 277; morbid changes in essential elements of, 278; in accessory parts of, 279; Mr. Stanley on Diseases of, *rev.*, 489; hypertrophy and atrophy, 489; neuralgia, 489; inflammation, 489; suppuration, 490; caries, 490; ulceration, 490; necrosis, 491; tumours, 492; scrofula, 492; catalogue of papers on diseases and injuries of, 762; of skull, Dr. Semple's case of epilepsy with hypertrophy of, 452
Bouchat, M., on transient albuminuria, 500
Bowman, Mr. John E., Handbook of Medical Chemistry, *rev.*, 665
——— Mr. W., case of hæmatocele, 904
Brain, M Duplay's case of induration of, 281; osteophytes on surface of, 298; granular corpuscles in, in hemiplegia, 387; Dr. Semple's illustrations of diseases of, 448; tuberculosis of in a child, 498; softening of in children, 499; disease of, simulated by foreign body in œsophagus, 582; disease of arteries of, Dr. Cormack's case of, 599; morbid appearances in after puerulent infection, 621; Mr. Poyser's case of disease of, 731; Dr. Semple's cases of softening of, 811; iron rod driven through, 893; softening of from plug in carotid, 893; fungus of, 1011; Mr. W. Cooke on Irritation and Inflammation of, *rev.*, 1067; wound of in a child, 1184
Brainard, Dr., on chloroform in neuralgia, 990
Brassica napus, case of poisoning by, 192
Bread, unfermented, Dr. Henry on arsenic in, 191; instructions for making, *rev.*, 380
Breast, catalogue of papers on diseases of, 767; milk in, in infants, 1106; Mr. Birkett on Diseases of, *rev.*, 1169
Breath-sounds in chest-disease, Dr. H. Kennedy on, 1107
Bright, Dr. James, on Diseases of the Chest, *rev.*, 970
Brindley, Mr, case of softening of brain from plug in carotid, 893
Brodie, Sir B. C., address at the Western Medical Society, 608; case of entrance of air into a vein, 929
Brown, Mr. I. B., on diagnosis of ovarian dropsy, 81; new operation for ovarian dropsy, 202, 1188; on inflammation of the breast, 303; case of chloroform in abortion, 305
——— Mr. W., on Qualifications of a Medical Missionary, *rev.*, 31

Browne, Dr. W. A. F., evidence in a case of lunacy, 1088
Broxholme, Mr. on chloroform in hemicrania, 989
Budd, Dr. W., on turpentine in purpura, 998
Bullein, W., on the duties of apothecaries, 555
Burial-clubs, new Act concerning, 1113
Burning, Dr. S. Wright's Pathological Researches on, *rev.*, 753
Burns and Scalds, Dr. Thomas Smith on turpentine in, 345
Bush, Dr. William, presentation of testimonial to, 405
Bushnan, Dr., on Cholera, *rev.*, 966
Buys, M., on acetate of lead in granular ophthalmia, 190

Cadge, Mr. W., case of aneurismal varix in a stump, 128
Cæsarean section, cases of, 1084, 1099
Calculi, salivary and urinary, 1100
Calculus removed through umbilicus, 1011
Calomel in croup, 187; effect of in purulent phlebitis, 628
Cambridge, the late Duke of, proposed monument to, 921
Camphine bath, Dr. Thomas Smith on, 329
Cancer of uterus, Dr. H. Bennet on, 162; of posterior mediastinum, 996; of lungs, 996
Cantharidal ether, M. Oettinger on, 1087
Canton, Mr. E., on the arcus senilis, 90; on hysterical ptosis, 199
Caoutchouc, vulcanized, in surgery, 60
Cape, Dr., on the relation of epilepsy to puerperal convulsions, 88
Carbuncle, Mr. Vincent on treatment of, 378; case of, by Mr. Poyser, 378
Cardiac dropsy, Dr. A. Kilgour on treatment of, 991
Caries, Mr. Goodsir on pathological changes in, 278; of head of femur, specimens of, 296, 301; Mr. Stanley on, 490
Carotid artery, case of ligature of, 81; plug in, causing softening of brain, 893
Carpenter, Dr. W. B., on Alcoholic Liquors, *rev.*, 1058
Cartilage, articular, Dr. Redfern on Anormal Nutrition in, *rev.*, 568
Casein in blood, Dr. Panum on, 685
Castle, Dr., case of aneurism of anterior palatine artery, 806
Castor-oil plant, galactagogue and emmenagogue effects of leaves of, Dr. Tyler Smith on, 951; Drs. M'William and Cormack on, 1085
Catamenia, Dr. Routh on the periods of appearance and cessation of, 243
Cataract, M. Kerst on seat of behind lens, 573; black, M. Pétrequin on, 799; medical *versus* surgical treatment of, 802
Catarrh, bronchial, Dr. S. Alison on tannic acid in, 3; suffocative, in young children, 284
Cauliflower excrescence of uterus, Mr. Tufnell's case of, 208; Dr. Johns on, 212; Dr. Montgomery on, 213
Cauterization with solidified nitric acid, 74; of cervix uteri, Dr. H. Bennet on, 167
Cautery, actual, application of to cervix uteri, 170
Caventou, M., on mineral springs containing manganese, 399; on a cheap substitute for quinine, 400
Cazeaux, M., on the abdominal murmur in pregnancy, 576
Cazentre, M., on therapeutic properties of cedron, 1085
Cedron, therapeutic properties of, 1085
Ceely, Mr., on cow-pock, 1045
Cellular tissue, effects of purulent infection on, 691
Cerebellum, Mr. Battye on functions of, 987
Cerebrum. *See* Brain.
Chambers, Dr. T. K., on Corpulence, *rev.*, 1166
Chancre, M. Ricord's treatment of, 605
Charenton Asylum, statistics of for 1849, 505
Chemistry, Annual Report of, *rev.*, 28; Dr. Fownes' Manual of, *rev*, 665; Mr. J. E. Bowman's Handbook of Medical, *rev.*, *ib.*; Animal, Dr. Bence Jones on, *rev.*, 957
Chest, Dr. Sibson on falling in of during inspiration, 83; Dr. R. Quain's new instrument for measuring, 923; Dr. James Bright on Diseases of, *rev*, 970; Dr. H. Kennedy on amount of respiration in diseases of, 1117. *See* Lungs.
Children, Dr. F. Churchill on Diseases of, *rev.*, 178; M. Trousseau on diarrhœa and cholera in, 187; M. Van Hengel on real and apparent death in, 193; M. Duclos on mucous pneumonia of, 284; diseases of, at the Stuttgart Hospital, Dr. Elsässer's Reports on, 494, 1173; diseases of eyes in, 494, 1175; vital debility in, 494, 1176; pneumonia and pleuropneumonia, 494, 1175; peritonitis, 496; erysipelas, 496; cerebral apoplexy, 496, 1174; convulsions, 497; atelectasis pulmonum, 497, 1178; œdema of lungs, 498; tuberculosis of brain, 498; tetanus, 498, 1176; softening of brain, 499; coryza, 499; umbilical hernia, 499; sclerosis, 1173; congestion of brain, 1173; congenital hydrocephalus, 1174; softening of stomach, 1175; diarrhœa and vomiting, 1176; mortality among in London, Dr. Webster on, 543, 1119; opium in strangulated hernia of, 894; Dr. Fröbelius' report on ophthalmia in, 999; Dr. Betz on goitre in, 1072; milk in breasts of, 1106; facial paralysis in, 1181; polypus excrescences from umbilicus in, 1183; proposal to establish a hospital for diseases of, 405
Childs, Mr. G. B., case of plum-stone passed through umbilicus, 301
Chloride of carbon, as an anæsthetic, 68
Chloroform, Mr. Nunneley on, 64; Dr. Snow on detection of in blood, 602; preparation of atropine by means of, 1087; attempted robbery by means of, 1113; in lead colic, 285; in asthma, 987; in cholera, 987; in cynanche, 988; in delirium tremens, 988; in hydrophobia, 988; in laryngismus stridulus, 989; in nephritic colic, 989; in neuralgia, 989; in odontalgia and otalgia, 990; in tetanus, 991; in strangulated hernia in infants, 894; in midwifery, catalogue of papers on, 859; Dr. Waller on, 77; insanity from, 90; Dr. Henry Bennet on, 265; in natural labour, 266; in operative midwifery, 267; in uterine examinations, 269; in uterine pain, 270; in abortion, 305; in puerperal convulsions, 988; Drs. R. Barnes and Sachs on, 1077; effect of on uterine contraction, 1079; on laceration of the perinæum, 1079; in producing convulsions, 1080; effect of on physical shock, 1080
Chlorosis, Dr. C. J. B. Williams on treatment of, in connection with heart-disease, 466; Dr. Cazeaux on analogy of blood in, and in pregnancy, 576; connexion of digiti semi-mortui with, 698
Cholera, catalogue of papers on, 670; Dr. R. D. Thomson on pathology and causes of, 294; Dr. Baly and Mr. Barlow on, 295; Drs. Basham and Copland on, 296; Dr. Lorie on sulphur in, 500; Mr. Barlow on post-mortem phenomena of, 889; Dr. Bushnan on, *rev.*, 966; chloroform in, 987; accompanying diseases, sequelæ, and metastases of, 997; comparative mortality from in London, 510, 1116; Dr. Batchelder on, *rev.*, 1170; Dr. E. Whittle on, *rev.*, *ibid.*; Mr. Joseph Bell on, *rev.*, *ibid.*; infantile, M. Trousseau on, 187, 189
Chorea, prussiate of iron in, 54; Dr. W. H. Madden on humoral origin of, 519; Mr. Pilcher on some cases simulating, 1090
Christison, Dr. on the treatment and fatal dose in poisoning with hydrocyanic acid, 397

CHURCHILL, Dr. F., on Diseases of Children, *rev.*, 178; Selections of Essays on Puerperal Fever and other Diseases of Women, *rev.*, 381
Chylous urine, Dr. Bence Jones on, 964, 1012
Cinchona, new organic base in, 29
Cinnabar fumigations, Mr. Acton on, 605
Circulation, organs of, catalogue of papers on diseases of, 674; of papers on anatomy and physiology of, 972
Citrate of iron and magnesia, 399
CLARKE, Dr. E. H., on chloroform in tetanus, 991
CLARKSON, Mr. case of artificial anus, 195
Classified catalogues of papers in British and American journals, 666, 758, 856, 971
Climate, influence of on health, Dr. Webster on, 549; of Madrid, Dr. Cormack on, 550; of London, Dr. Webster on salubrity of, 1128
Clothing, Dr. Webster on, 1131
Coagulation of blood, effects of pus and foreign matters on, 217, 614
Coagulum, indications for preservation of in purulent phlebitis, 625
Coal-gas, Mr. Nunneley on, as an anæsthetic, 68
Cod-liver oil in phthisis, Report of Consumption Hospital on, 44; effect of in increasing weight, 45; in phthisis, Dr. Turnbull on, 119; almond oil as a substitute for, 398; congestion of lungs caused by, 1101; Dr. Bagot on adulteration of, and substitutes for, 1103
Colchicum in rheumatic disease of the ear, 56; in enlarged tonsil, Mr. Harvey on, 350
COLDSTREAM, Dr., on cretinism, 108
Colic, lead, chloroform in, 285; of prostitutes, Dr. Hassing on, *rev.*, 756; nephritic, chloroform in, 989
College of Surgeons of England, proposed new charter of, 103; financial state of, 307, 1111; Regulations of, *rev.*, 651
——— of Edinburgh, proposed new charter of, 307; diploma of fraudently obtained, 403
COLLES, Mr. W., on extension of gonorrhœa to bladder, 895
COMBE, the late Dr. Andrew, on the Physiology of Digestion, *rev.*, 493
Congenital malformations, catalogue of papers on, 666
Congestion of lungs caused by cod-liver oil, 1101
CONOLLY, Dr. John, proposed testimonial to, 1016
Constantinople, Dr. Webster on climate of, 1129
Consumption, Dr John Gardner on, *rev.*, 664; Dr. C. Holland on, *rev.*, 849, 1172. *See* Phthisis.
Convulsions, puerperal, relation to epilepsy, Dr. Tyler Smith on, 87, 96; Mr. Druitt on, 88; Dr. Murphy on, 88; Dr. Cape on, 88; Mr. W. F. Barlow on, 88; Dr. R. Lee on, 89; Dr. Henry Bennet on, 89; Dr. Cormack on, 91; Mr. Streeter on, 93; Mr. Wing on, 94; Dr. James Bird on, 95; Dr. Snow on, 96; Dr. Routh on, 96; intra-cranial osteophytes a cause of, 92; renal disease a cause of, 96; Dr. Thomas Smith on turpentine in, 344; chloroform in, 988; Dr. Barnes on chloroform as a cause of, 1080; relation of to albuminuria, 1082; case of, with loss of speech, 1083
——— in children, Dr. Elsässer's cases of, 497; salaam, Dr. Faber's cases of, 569; Dr. Willshire on, 590
COOKE, Mr. Weeden, on Hydrocephalus, *rev.*, 1067
COOPER, the late Mr. Samuel, bust of, 401
——— Mr. W. White, fatal case of gastro-intestinal hæmorrhage, 19; on conical cornea, 407, 523
COPLAND, Dr., on cholera, 296
CORMACK, Dr. John Rose, on chloroform during labour, 90; case of eggs united by a band, 90; on the relations and differences between epilepsy and puerperal convulsions, 91; on intra-cranial osteophytes, 92; case of premature labour, with symptoms resembling irritant poisoning, 203; on the climate of Madrid, 550; on entrance of air by uterine veins, 589, 928; case of death from air entering anterior jugular vein, 933; case of disease of arteries of brain, 599; on iodide of potassium in syphilis, 607; on scarlatinal vaginitis, 871; on provident dispensaries, 907; on cause of convulsions in primiparæ, 1082; effects of leaves of ricinus, 1085
Cornea, conical, Mr. White Cooper on, 407, 523; Mr. J. Dixon on, 521; history of, 407, 524; appearances and frequency, 408; symptoms, 411; causes, 413, 525; pathology, 417; treatment, 526; artificial pupil, 526; removal of lens, 530; removal of segments of cornea, 532; puncturing the cornea, 533; pressure, 533; emeto-purgative treatment, 526, 535; local applications, 535; optical apparatus, 537
Corneitis, a cause of conical cornea, 415
Corpulence, Dr. T. K. Chambers on, *rev.*, 1166
Corpuscles, white, excess of in blood, 691
Coryza in children, Dr. Elsässer on, 499
COTTINGHAM, Mr., case of tumour of labium treated by seton, 896
COTTON, Dr. C., excision of head of femur, 58
——— Dr. R. P., Clinical Lectures on Phthisis, *rev.*, 46
Cotton-wadding as an application to ulcers, 1184
COULSON, Mr., on the operation for artificial anus, 198; on malignant disease of bladder, 300; on inflammation of mammæ, 304; cases of fracture of neck of femur, 1089; on dislocation of the great toe, 1189; on subcutaneous bursæ, 1190
Countenance, after death from cholera, Mr. W. F. Barlow on, 892
Counter-irritant, oil of turpentine as a, 326
Cow-pock, Dr. A. Knox on, 1037, 1134. *See* Vaccination.
COX, Mr. W. J., on chloroform in laryngismus stridulus, 989
CRAIG, Mr., tumour of supra-renal capsule, 1096
Cranium, hypertrophy of bones of, with epilepsy, 452; tumour of, in an infant, 987
CRAWFORD, Dr. M., on typhus and typhoid fevers, 80
Cretinism, meeting in Edinburgh concerning, 609; Drs. Coldstream and Guggenbühl on, 1098
Croup, alum in, 187; calomel in, 187
Crucial ligament of knee-joint, rupture of, 1183
CRUVEILHIER, M., on absorption of pus and foreign matters, 222 *et seq.*
Cryptogamic vegetations in favus, M. Wedl on, 283
Crystalline lens, Mr. White Cooper on removal of in conical cornea, 530; M. Kerst on cataract behind, 573
Crystals, Baron von Reichenbach on a peculiar effect of, 836
CUMMINGS, Dr. A. J., on astringent properties of tannin, 1069
Curability of phthisis, Dr. Turnbull on, 105
CURLING, Mr. T. B., on operations for strangulated hernia in old people, 507; case of hæmatocele, 904; absence of thyroid gland in idiots, 1012
Cynanche, chloroform in, 988
Cyst of cervix uteri, explosion of under cauterization, 581; of labium, application of caustic to interior of, 1007; of mammary gland, Mr. Birkett on, 1169

DALRYMPLE, Mr., Pathology of the Human Eye, *rev.*, 274, 1068
DANIELL, Dr. W. F., on the Medical Topography and Native Diseases of the Gulf of Guinea, *rev.*, 492
——— Dr., ligature of common carotid, 81
Dartmoor, climate of, in consumption, 1072
DARTNELL, Mr. G. R., Description of an Improved Truss, *rev.*, 563
DAVEY, Dr. J. G., Contributions to Mental Pathology, *rev.*, 274; case of uterine hydatids, 392
DAVIES, Dr. John, on chloroform in cholera, 987
Deafness, Mr. Harvey on excision of tonsils in, 850; Mr. Yearsley on, *rev*, 1067

Death, diagnosis between real and apparent in new-born children, 193
Debility, vital, in children, in Stuttgart hospital, Dr. Elsässer on, 494, 1176
Debreyne, M., on belladonna in nervous and spasmodic affections, 386
De Froberville, M., on the Ostro-Negroes of Eastern Africa, 48
Delirium Tremens, relation of, to epilepsy and puerperal convulsions, 95; Dr. James Bird on types of, 419; modified forms of, 421; causes of, 434; differential diagnosis of, 426; pathology of, 429; treatment of, 431; table of cases of, 434; chloroform in, 988
De Morgan, Mr. C., on section of tendo Achillis, 78
Dentition, Dr. Fliess on the paralysis attending, 51; case of synovitis in an infant during, 585
D'Esnans, M. F., on prussiate of iron in chorea and epilepsy, 54
Dew, Mellom on the formation of, 28
Diabetes, spurious, from disease of spinal cord, 10; Dr. Macintyre on lesions of the stomach in, 353; Dr. Bence Jones on, 964
Diagnosis of disease, Mr. Poyser on difficulties of, 730
Diarrhœa, chronic, Dr. S. Alison on tannic acid in, 3; tropical, Dr. James Bird on intestinal ulcers in, 86; infantile, M. Trousseau on, 187; Dr. Elsässer on, 1176
Diet, Dr. C. J. B. Williams on, in heart-disease, 471
Digestion, Dr. A. Combe on the Physiology of, *rev.*, 493; Dr. Bence Jones on, 958; catalogue of papers on diseases of organs of, 677; on anatomy and physiology of, 972
Digiti semi-mortui, M. Gillet de Grandmont on, 698; connexion of with chlorosis, 698; with disease of the nervous centres, 699
Diphtheritis, M. Miguel on calomel and alum in, 186; Dr. Risdon Bennett on, 1089
Directory, London & Provincial Medical, *rev.*, 179
Disjunction of epiphysis of humerus, Dr. R. W. Smith on, 389
Dislocations, Mr. Vincent on, 376
Dispensing of medicines, not a mark of degradation, 483, 558; opinions of old authors on, 558
Diuretic, oil of turpentine as a, 327; Dr. Easton on acetate of potash as a, 875
Dixon, Mr. James, on conical cornea, 523
Douglas, Dr. H., on the Influence of Hypertrophy and Dilatation on Diseases of the Heart, *rev.*, 756
Downing, Dr. T., on Tic Doloreux and the Aneuralgicon, *rev.*, 46
Dropsy, cardiac, Dr. C. J. B. Williams on treatment of, 469; Dr. A. Kilgour on, 991; renal, Dr. G. Johnson on proximate cause of, 502
Druitt, Mr., case of ovarian dropsy mistaken for pregnancy, 82; on puerperal convulsions and epilepsy, 88
Dublin, complications of fever in, 1102
Duclos, M., on suffocative catarrh in young children, 284
Duffin, Mr. E. W., successful case of ovariotomy, 1186
Duncan, Dr. P. M., on almond oil as a substitute for cod liver oil, 398
Dunn, Mr., case of hemiplegia with loss of speech, 1012
Duparque, M., case of ovaritis by, 350
Duplay, M., case of induration of cerebrum, 281
Dutch liquid, as an anæsthetic, 67
Dysentery, tropical, Dr. J. Bird on intestinal ulcers in, 86; Dr. Polak on relation of to cholera, 997; Dr. Cummings on tannin in, 1069
Dyspepsia, tannic acid in, 5; in connexion with disease of pancreas, 1052

Ear, Mr. W. Harvey on rheumatic disease of, 55; Mr. Toynbee on the otoscope in diseases of, 501; Mr. H. Gray on development of, 984
Easton, Dr., Introductory Lecture on Clinical Medicine, *rev.*, 144; on acetate of potash in diseases of the skin, 872
Eclampsia nutans, Dr. Faber's cases of, 569; Dr. Willshire's cases of, 590
Eczema, acetate of potash in, 873
Edinburgh, School of Medicine of, 102; Report of Royal Infirmary at, 214; Report of Maternity Hospital at, 307
Education of medical practitioners, neglect of by College of Surgeons, 481; observations on, 651
Effusion into abdominal cavity, after muco-enteritis and peritonitis, Dr. A. Knox's case of, 473
Elaterium in cardiac dropsy, 991
Elbow-joint, case of excision of, 1193
Electricity in air, influence of, in the production of delirium tremens, 424
Elsaesser, Dr., his reports on the diseases of children in the Stuttgart hospital, 494, 1173
Emeto-purgative treatment in conical cornea, 526, 535
Emmenagogue effects of leaves of castor-oil plant, 951, 1085
Emphysema of lungs antagonistic to phthisis, 113
Empyema, case of chronic, terminating favourably, 887
Entropium, Mr. H. Walton on treatment of, 601
Epidemiological Society, first meeting of, 906
Epilepsy, prussiate of iron in, 54; relation of to puerperal convulsions, Dr. Tyler Smith on, 87, 96; Mr. Druitt, Dr. Murphy, Dr. Cape, and Mr. Barlow on, 88; Drs. Robert Lee and Henry Bennet on, 89; Dr. Cormack on, 91; Mr. Streeter on, 93; Mr. Wing on, 94; Dr. James Bird on, 95; Drs. Snow and Routh on, 96; influence of gestation on, 87, *et seq.*; Dr. Thos. Smith on turpentine in, 345; M. Debreyne on belladonna in, 386; M. Gamberini's case of, with exostosis of parietal bone, 388; case of, with hypertrophy of cranial bones, 452; Dr. Madden on humoral origin of, 520
Epiphysis of humerus, Dr. R. W. Smith on disjunction of, 389
Epistaxis, Dr. Thomas Smith on turpentine in, 334; Dr. Cummings on tannin in, 1070;
Erectile tissue in cervix uteri, Drs. E. Forget and Tilt on, 350; Dr. Snow Beck on, 588
Erichsen, Mr., on section of the tendo Achillis, 79; cases of hernia by, 100
Eruptions on cervix uteri, 1097
Erysipelas, nitrate of silver in, 57, 58, 191; tincture of iodine in, 57; in children at the Stuttgart hospital, 496
Erythema nodosum, connexion of with rheumatic diathesis, 774
Ether, chloric, as an anæsthetic, 67
—— sulphuric, Mr. Nunneley on anæsthetic effects of, 67; in midwifery, Dr. Waller on, 77; enemata of, in rheumatism and neuralgia, 1180
Excision of head of femur, Dr. C. Cotton's case, 58; of bones, catalogue of papers on, 765; of tonsils, Mr. Harvey on, 880; Mr. Syme on, 1006; of elbow-joint, 1193
Exercise, Dr. C. J. B. Williams on, in diseases of the heart, 472; effect of on the pulse, 1065; Dr Webster on, 1132
Exhalations, poisonous, from an apparently healthy man, 798
Expiratory murmur, prolonged, a sign of phthisis, 1013
Extravasation of urine, case of, 199
Eye, Mr. Dalrymple on Pathology of, *rev.*, 274, 1068; Dr. Jacob on Inflammation of, *rev.*, 274; M. Debreyne on belladonna in affections of, 387; diseases of among children in Stuttgart hospital, 494, 1175; Mr. Gray on development of, 980; Dr. Fröbelius on inflammation of in children, 999; Mr. H. Howard on Anatomy, Physiology, and Pathology of, *rev.*, 1066; Dr. Jacob on tumours of, 1101; Dr. C. Wallace on Adjustment of to Distances, *rev.*, 1172

Faber, Dr., cases of eclampsia nutans by, 569
Fairbrother, Dr. W. M., on chloroform in cholera, 987; case of congenital protrusion of intestines, 1185
Faraday, Dr., his experiment of freezing mercury in a hot vessel, 28
Farrege, D., on polypous excrescences from umbilicus in children, 1183
Fat in urine, Dr. Bence Jones on, 964; excess of, Dr. Chambers on, 1166
Fatty degeneration of heart, Dr. R. Quain on, 705
——— tumours, Mr. Syme on, 1098
Fatuity, brieve of, 1088
Favus, Dr. Wedl on cryptogamic vegetations in hair in, 283; Dr. Hughes Bennett on, 849
Fecundity, Dr. Routh on, 245
Feet, mortification of from exposure to cold, 1105
Femur, Dr. Cotton's case of excision of head of, 58; caries of head of, specimens of, 296, 301; fracture of neck of, Mr. John Lizars on, 893; Mr. Coulson's cases of, 1089
Fergusson, Mr., cases of urethrotomy by, 61
Fern, M. Martin Solon on, in tænia, 1182
Fevers, catalogue of papers on, 668; Dr. Adams on influence of hospitals on, 880; Mr. Taylor on Cutaneous Inunction in, *rev.*, 970; complications of in Dublin, 1012
——— intermittent, Dr. Polak on relations of to cholera, 997; cedron in, 1085
——— infantile remittent, analogy of with typhoid fever, 80
——— low continued, tannin in, 1069
——— typhoid, Dr. W. Jenner on, 79; Drs. Barclay, Baly, West and Crawford on, 90; Dr. A. T. Thomson on nosological arrangement of, 846
——— puerperal, Dr. F. Churchill's Collection of Essays on, *rev.*, 381; Dr. Skoda on causes of, 700; Dr. Semmelweis' experiments to determine cause of, 701
Fibrin, causes influencing quantity of, 648
Fibro-cystic tumour of uterus, Mr. P. Hewett's case of, 611
Field, Mr., operation for artificial anus, 195
Fish-oils as substitutes for cod-liver oil, 1103
Fistula in Perinæo, Mr. Syme on, *rev.*, 35; Mr. Vincent on, 379
Flame of candle, Volger on structure of, 29
Flatulent distension of abdomen, Dr. Thomas Smith on turpentine in, 343
Fleming, Dr. C., on a peculiar form of glossitis, 882; on a tubercular affection of the tongue, 883
Flemming, Dr., on tartarized antimony in insanity, 1181
Fletcher, Mr. T. S., testimonial presented to, 506
Fliess, Dr., on paralysis from dentition, 51
Flood, Dr. V., Surgical Anatomy of the Arteries, edited by Dr. Power, *rev.*, 142
Fœtus, catalogue of papers on diseases of, 857
Food, Dr. Bence Jones on, 957; Dr. Webster on influence of in health, 1130
Forensic medicine, catalogue of papers on, 975
Forget, Dr. E., erectile tissue in cervix uteri, 350
Fownes, Dr., Elementary Chemistry, *rev.*, 665
Fractures, Mr. Vincent on, 377
Fragilitas ossium, with much animal matter in urine, 904
Fraudulent diploma of College of Surgeons of Edinburgh, 403
Froebelius, Dr., report on ophthalmia of newborn children, 999
Fulcrum, Mr Gilbert's, Mr. Robins on employment of, 574; account of, *rev.*, 757
Fungus of brain, Mr. Lowe's case of, 1011
Gabb, Mr. A. W., case of retention of urine for nine days, 1011
Gairdner, Dr. W. T., case of aneurism of superior mesenteric artery, 1094; hæmorrhagic membrane within arachnoid, 1096; cicatrices in lungs, 1097; case of atrophied pancreas, 1100
Galactagogue effects of castor-oil plant, 951, 1085
Gallic acid, effects of on chylous urine, 1012
Gamberini, M., case of epilepsy, with exostosis of parietal bone, 389
Gangrene of lungs, Dr. Stokes on, 886; of feet from exposure to cold, 1105
Gardner, Dr. John, on Consumption, *rev.*, 664
Gariel, M., on vulcanized India-rubber in surgery, 60
Garrod, Dr., on the connexion between gout and rheumatism, 583; method of detecting uric acid in blood, 584
Gaspard, M., experiments on purulent infection by, 234, *et seq.*
Gastric fluid, Dr. Macintyre on the influence of, in producing diabetes, 355; Dr. Bence Jones on, 958
Gaussail, M., on enemata of ether, 1180
Gay, Mr., on the operation for hernia, 101; on inflammation of the mammary gland, 303; case of air entering a vein, 930
General Practitioners, proposed College of, Mr. Syme on, 26; Mr. Skey's remarks on, *rev.* 983; examination of condition of, 555
Geoghegan, Dr., on milk in breasts of young children, 1107
Ghosts, Baron von Reichenbach on, 837
Gilbert, Mr., Mr. Robins' case of employment of his fulcrum, 574; on the Extraction of Teeth, *rev.*, 757
Gillet de Grandmont, M., on digiti semimortui, 698
Giraud, Dr. H., on poisoning with stramonium, 427
Glasgow, Dr. Easton on medical education in, 144
Glossitis, Dr. C. Fleming on a peculiar form of, 882
Glottis, influence of pneumogastric nerve on movements of, 183
Goddard, Dr. Jonathan, on the Practice of Physick, *rev.*, 553; on the dispensing of medicine by physicians, 559
Goitre, Mr. Syme on connexion of with anæmia, 1098; in new-born children, 1072
Gonorrhœa, tannic acid lotions in, 4; Mr. Colles on extension of to bladder, 895
Goodsir, Mr. John, on diseases of bone, 277; Annals of Anatomy and Physiology, *rev.*, 380
Gout, Dr. Garrod on connexion of with rheumatism, 583; Dr. Toulmin on Treatment of, *rev.*, 853
Granular corpuscles in brain and spinal cord in hemiplegia, 387; in optic chiasma in amaurosis, 570
Gray, Mr. H., on the development of the retina, 280; of the membrana Jacobi, 983; of the fibrous lamina, 983; of the auditory nerve, 984; of the membranous lining of the semicircular canals, 985
Gream, Dr. G. T., on nux vomica in hay asthma, 699
Greenhill, Dr. W. A, reports on the public health of Oxford, 1015
Gregory, Dr. Wm., his Translation of Reichenbach, *rev.*, 833
Grisolle, M., on the reciprocal influence of pregnancy and phthisis, 382
Guerin, M. Jules, on Orthopædic Operations, *rev.*, 1068
Guersant, M., on polypus of rectum in children, 1185
Guggenbuehl, Dr., on cretinism. 1098
Guinea, Gulf of, Dr. W. F. Daniell on Medical Topography and Diseases of, *rev.*, 492
Guy, Dr. W. A. on the Pulse, *rev.*, 1063
Haas, Dr. Rudolf, on the mechanism of nutrition, 642, 715
Habits, unhealthy, Dr. Webster on, 1131
Haddock, Mr. J. N., on Somnolism and Psycheism, *rev.*, 34
Hæmatemesis, turpentine in, 330

Hæmatocele of spermatic cord, 904; of tunica vaginalis, 904; pathology of, 904; treatment of, 905
Hæmaturia, case of, from malignant disease of bladder, 298; Dr. Thomas Smith on turpentine in, 335
Hæmoptysis, relative frequency of in phthisis. 41; Dr. Thomas Smith on turpentine in, 338
Hæmorrhage, fatal gastro-intestinal, Mr. White Cooper's case of, 19; after extracting teeth, mode of arresting, 143; Dr. Thomas Smith on turpentine in, 330; capillary, turpentine in, 336; in connexion with cholera, 996; Dr. Cummings on tannin in, 1070
Hæmorrhagic membrane in arachnoid, 1096
Hæmorrhoids, Dr. S. Alison on tannic acid in, 4; Mr. Vincent on treatment of, 379
Hair, Dr. Wedl on cryptogamic vegetations in, in favus, 283
Hair-pin extracted from urethra, 293
HALE, Dr. R. J., case of fatal hæmorrhage from ulceration of veins of neck in scarlatina, 720
HALL, Dr. J. C., on nitrate of silver in erysipelas, 191
——— Dr. Marshall, table of paroxysmal seizures, 1070
HAM LTON, Mr., on Syphilitic Sarcocele, *rev.*, 36
HANCOCK, Mr., on the Operation for Strangulated Hernia, *rev.*, 141; case of stricture, with extravasation of urine, 199; on treatment of inflammation of mammæ, 304
HARE, Dr. C. J., case of paralysis of motor oculi from aneurism of posterior communicating artery, 824; on the mortality in hospitals, 1188
Hare-lip, Dr. O'B. Bellingham on early operation for, 1109
HARLEY, Mr. G., Cæsarean operation by, 1099
HARRISON, Mr. J. B., case of monstrosity by, 79
Harveian Oration for 1850, 733
HARVEY, Mr. W., on rheumatic disease of the ear, 55; on Excision of Enlarged Tonsils, *rev.*, 850
HASSALL, Dr., on the Water supplied to London, *rev.*, 493
HASSING, Dr., on Colica Scortorum, *rev.*, 756
Hastings as a Resort for Invalids, Dr. Mackness on, *rev.*, 381
Haversian canals, Mr. Goodsir on effects of disease in, 279
HAWKINS, Mr. Charles, on section of the tendo Achillis, 78
Hay asthma, nux vomica in, 699
HAYS, Dr. Isaac, on chloroform in neuralgia, 990
Head, catalogue of papers on diseases and injuries of, 765; case of iron rod driven through, 893
Health of London, Dr. Webster on, 540, 1115
Heart, Dr. C. J. B. Williams on organic diseases of, 311, 460; circumstances in heart influencing prognosis, 312; state of blood influencing prognosis, 317; table of secondary effects of diseases of, 320; treatment of organic diseases of, 460; case of valvular malformation of in a small-pox patient, 598; Dr. R. Quain on fatty degeneration of, 705; Dr. H. Douglas on Diseases of, *rev.*, 756; Dr. A. Kilgour on treatment of dropsy from disease of, 991; Dr. Semple on valvular disease of, 1019, 1090; cases of aneurism of,
Heat of body, rise of after death from cholera, 890
Heathen priest-doctors, tactics of, 31
Hemicrania, chloroform in, 989
Hemiplegia, granular corpuscles in brain and spinal chord in, 387; Mr. Dunn's case of with loss of speech, 1012
Hen eggs united by a band, 90
HENRY, Dr., on arsenic in unfermented bread, 191
——— Dr. A., classified catalogues of papers in British and American Journals, 666, 758, 850, 971
——— Mr. Mitchell, case of abscess of vesiculæ seminales, 1013
HENSON, Mr. S., case of loss of speech during pregnancy, 1083
Hepatic compression rhonchus, Dr. Walshe on, 797
HERAPATH, Dr. W. B., aneurism of anterior palatine artery, 806
Hereditary predisposition, influence of in phthisis, 39
Hernia, catalogue of papers on, 768; cases of, by Mr. Erichsen, 100; Strangulated, Mr. Hancock on, *rev.*, 141; strangulated, Mr. T. B. Curling on successful operations for, in old people, 507; strangulated, in infants, 894; strangulated, with ileus, 1013; strangulated within abdomen, remedied by operation, 1092; strangulated, simulating hydrocele, 1103; umbilical, in children, 499
HEWETT, Mr. P., case of fibro cystic tumour of uterus, 611; case shewing organization of effused blood, 641
HILLMAN, Mr. W. A., case of vascular tumour of urethra, 86
HILTON, Mr., on artificial anus, 197
HIPPOCRATES on the dispensing of medicines, 558
Histogenetic, Dr. S. Alison on tannic acid as a, 5
HODGSON, Mr., on artificial anus, 198
HOLLAND, Dr. G. C., on the Cure of Consumption, *rev.*, 849, 1172
Homœopathist, legal action for defamation of character brought by a, 402; correspondence between Dr. C. J. B. Williams and a, 403
Homœopathy in the House of Commons, 916; remarks on, 849, 1172
HORN, M., on the termination in loops of the olfactory nerve, 986
Hospital for Consumption, First Annual Report of, *rev.*, 37; hygienic conditions of, 43
Hospitals, effect of on the mortality from fever, 880; in London, mortality in, Dr. Webster on, 1122; Dr. Hare on, 1188
House of Commons, homœopathy in, 916; libel on medical profession published by order of, 1010
HOWARD, Mr. H., on the Eye, *rev.*, 1066
HUETTE, M., on inhalation of hydro-iodic ether, 1086
HULL, Dr., on Consumption, *rev.*, 139
Humerus, Dr. R. W. Smith on disjunction of epiphysis of, 389
Humoral theory of nervous affections, Dr. Madden on, 520
HUNT, Mr., on Diseases of the Skin, *rev.*, 855; on the mercurial treatment of syphilitic eruptions, 1190
HUNTER, Mr. John, on the effects of pus and foreign matter on the blood, 217, *et seq.*
Hunterian Oration, Mr. Skey's, *rev.*, 479
HUTCHINSON, Mr. J., on chloroform in brow-ague, 989
——— Dr. John, on the diagnosis of pulmonary consumption, 1075
Hybernation, Dr. Haas' explanation of, 645
Hydatids of uterus, Dr. J. G. Davey's case of, 392; beneath arachnoid membrane, 453; in liver, suppurating through lung, 903
HYDE, Mr. G., on chloroform in delirium tremens, 988
Hydrocele, Mr. Lloyd on treatment of, 190; strangulated hernia resembling, 1103
Hydrocephalus, turpentine in, 345; chronic, Dr. Battersby on, 782; Mr. Weeden Cooke on, *rev.*, 1067; congenital, case of, by Dr. Elsässer, 1174
Hydrocyanic acid, Dr. Christison on treatment and fatal dose in poisoning by, 397
Hydro-iodic ether, M. Huette on inhalation of, 1086
Hydrophobia, Dr. Webster on causes of frequency and diminution of, 541; chloroform in, 988; seeds of cedron a remedy for, 1085
Hygienics, catalogue of papers on, 975
Hypertrophy of cervix uteri, Dr. H. Bennet on, 171; of bone, Mr. Stanley on, 489; of toes, Dr. F. Battersby on, 1109
Hypochondrium, case of tumour in, simulating hepatic disease, 522
Hysteria, M. Debreyne on belladonna in, 386

Ice applied to head in scarlet fever, 867
Idiots, absence of thyroid gland in, 1012
Ileus & strangulated hernia in same person, 1013
Infant, case of synovitis in an, 585; opium in strangulated hernia in, 894; milk in breasts of, 1106; wound of brain in an, 1184; congenital protrusion of intestines in an, 1185
Inflammation, Dr. A. Wood on, 272
Inoculation, variolous, Dr. A. Knox on, 1039; effect of vaccination on results of, 1139
Insane, Parisian hospitals for, statistics of, 505
Insanity from chloroform during parturition, 90; tartar emetic in, 1181
Intestinal obstruction simulating diseased liver, Dr. A. Knox's case of, 522; case of by Mr. Sharp, 1093; Mr. Field's and Mr. Clarkson's cases of, 195; Dr. A. Knox's case of, simulating labour, 823; from peritoneal bands, 993
Intestines, Dr. James Bird on ulcers in, in tropical diarrhœa and dysentery, 86; changes produced in by purulent infection, 621; protrusion of in an infant, 1185
Inunction in scarlet fever, Dr. Schneemann on, 865; in fevers, Mr. Taylor on, 970
Iodide of iron, preservation of pills of, 1087; of potassium in syphilis, Mr. Acton on, 606; Mr. B. Travers and Dr. Cormack on, 607
Iodine, compound tincture of, in erysipelas, 57; in phthisis, Dr. Turnbull on, 118
Iron in phthisis, 44; in heart-disease, 466; in conical cornea, 537; in albuminuria, 567; prussiate of, in chorea and epilepsy, 54; with magnesia, citrate of, 399; iodide of, means of preserving pills made of, 1087; rod of, driven through head, 893
Irritant poisoning, Dr. Cormack's case of premature labour with symptoms resembling, 203
Italy, Dr. Webster on, as a resort for invalids, 551

Jacob, Dr., on Inflammation of the Eye-ball, *rev.*, 274; tumours of eye and orbit, 1101; cod-liver oil, 1103; early operation in congenital cataract, 1110; on a peculiar accident of shoulder-joint, 1194
Jackson, Dr. S., on chloroform in hydrophobia, 988
Jacksonian prizes for 1850, 505
Jaeger, Dr., on conical cornea, 415
Janzer, Dr., on the state of the ovaries and uterus after menstruation, 396
Jenner, Dr. Edward, monument to, 103
——— Dr. William, on typhus, typhoid, and relapsing fever, 79
Johns, Dr., on cauliflower excrescence of uterus, 212
Johnson, Dr. George, on the pathology of the kidney in Bright's disease, 502
Joints, catalogue of papers on diseases and injuries of, 763
Jones, Dr. Bence, on Animal Chemistry, *rev.*, 957; on food, 957; digestion, 958; blood, 959; urine, 960; chylous urine, 964, 1012; diabetes, 964
——— Mr. R., on cotton-wadding as an application to bed-sores, 1174
Journals, medical, circulation of in Spain, 1112;
Jugular vein, internal, fatal ulceration of in scarlatina, 720

Kennedy, Dr. H., on complications of fever in Dublin, 1102; on cod-liver oil, 1103; on amount of respiration in chest-diseases, 1107; on early operation in hare-lip, 1110
Kersi, M., on cataract behind the lens, 573
Khaya Senegalensis, alkali obtained from, a substitute for quinine, 400
Kidney, disease of, a cause of puerperal convulsions, 96; in scarlatina. Dr. James Miller on, *rev.*, 276; disease of, simulating cerebral disease, 451; Dr. C. J. B. Williams on treatment of diseases of in connexion with heart-disease, 469; pathology of in Bright's disease, Drs. George Johnson and C. J. B. Williams on, 502; Dr. G. Owen Rees on, *rev.*, 565; effects produced in by purulent infection, 619; catalogue of papers on diseases of, 680
Kilgour, Dr. A., on the treatment of cardiac dropsy, 991
——— Dr. J., case of abscess of pancreas, 1052
King, Dr. Alexander, case of abscess in neck following scarlatina, 724
Kiss, Baron von Reichenbach's explanation of, 838
Knee-joint, synovitis of, in an infant during dentition, 585; rupture of crucial ligament in, 1183
Knox, Dr. Alexander, case of muco-enteritis, with peritonitis and effusion into abdominal cavity, 473; cases simulating disease of liver, 522; intestinal obstruction simulating labour, 823; on vaccination and revaccination, 1037, 1134; history of small-pox, 1037; variolous inoculation, 1039; history and effects of vaccination, 1041; on revaccination, 1137, 1140, 1159; causes of failure of vaccination, 1141; means of obviating failure, 1157
Kousso, Dr. Pereira on, 896; history, 896: pharmacography, 889; adulteration, 899; chemistry, 899; medicinal properties, 900; administration, 902

Labium, removal of immense tumour of, 894; encysted tumour of, treated by seton, 896; by applying nitrate of silver to interior of cyst, 1007
Labour, chloroform in, Dr. H. Bennet on, 265; premature, with symptoms resembling irritant poisoning, 203; simulated by intestinal obstruction, 823
Laennec, M., on recovery from phthisis, 107
Lagae, M., wound of brain in an infant, 1184
La Motte, M., case of epilepsy partially relieved during pregnancy, 88; Dr. Cormack's explanation of, 92
Landouzy, M., on the coincidence of albuminuria and amaurosis, 186
Lane, Dr. Butler, on purging flax, 1010
Langenbeck, Professor, on ligature of uterine polypi, 704; operation for pharyngeal polypi, 804
Lankester, Dr., case of malignant disease of bladder, 298
Larrey, Baron, statue of, 1017
Larsen, Professor, case of cancer of posterior mediastinum, 996
Laryngismus stridulus, chloroform in, 989
Larynx, method of applying nitrate of silver to, 1075; Dr. John Scott on affections of, 1099
Lavender, Dr., case of poisonous exhalations from an apparently healthy man, 798
Lawrence, Mr., on ovariotomy, 1187
Lead, acetate of in granular ophthalmia, 190
Lead-colic, chloroform in, 285
Lecluyse, M., on strychnine in paralysis of the bladder, 882
Lecture, Introductory to a course of Clinical Medicine, by Dr. J. A. Easton, *rev.*, 144
Lee, Mr. Henry, on inflammation of the veins, and the introduction of foreign matters into the blood, 217, 613
——— Dr. Robert, on epilepsy and puerperal convulsions, 89; on the use and abuse of the speculum, 905; examination of an ovarian tumour, 1186; analysis of 108 cases of ovariotomy, 1187
Leeches, Dr. H. Bennet on, in inflammation of cervix uteri, 165
Legendre, M., on of tape-worm, 1073
Lente, Dr., case of anomalies in muscles of arm, 690
Lepra vulgaris, treated by acetate of potash, 874
Letalnet, M., case of acute ovaritis with metritis, 351
Letheby, Dr., case of poisoning with chloride of zinc, 1011

Lettsomian lecturers in Medical Society of London, 1015, 1089, 1112
Leucorrhœa, Dr. S. Alison on tannic acid in, 4
Lever, Dr., case of laceration of vagina and uterus, 131; on mania co-existing with uterine disease, 581; cases of death from entrance of air into uterine veins, 941
Ligature, Langenbeck on danger arising from in uterine polypi, 704; means of applying to pharyngeal polypi, 804
Lindsly, Dr., on cutaneous inunction in scarlatina, 868
Linum catharticum, Dr. Butler Lane on, 1010
Lionet, M., case of entrance of air into uterine veins, 944
Liston testimonial, 401
Lithotomy, MM. Pamard's cases of, 286
Lithotrity, MM. Pamard's cases of, 286
Liver, Professor Retzius on the structure of, 47; Dr. C. J. B. Williams on the treatment of disease of, in connexion with heart disease, 469; cases simulating disease of, by Dr. A. Knox, 522; changes produced in by purulent infection, 619; obscure case of disease of, by Mr. Poyser, 730; enlarged, auscultatory sign of, 797; Dr. Peacock's case of hydatids of, 903
Lizars, Mr. John, on diagnosis of fracture of neck of femur, 893
Lloyd, Mr. E. A., on the treatment of hydrocele, 190; removal of large cellular tumour of labium, 894
Locke and Sydenham, *rev.*, 180
London, Dr. Hassall on Water supplied to, *rev.*, 493; Dr. Webster on health of, 540, 1115; salubrity of as a place of residence, 1128
Longet, M., on the pneumogastric nerve, 181; his neglect of Dr. John Reed, 186
Lorie, Dr., on sulphur in cholera, 500
Lorinser, M., on maxillary necrosis in lucifer-match makers, 1008
Louis, M., on recovery from phthisis, 108
Lowe, Mr. G., cases of fungus cerebri, 1011
Lower jaw, Mr. Stanley on morbid growths from, 492; Dr. Lorinser on necrosis of, 1008
Lucifer-match makers, Dr. Lorinser on maxillary necrosis of, 1008
Lunacy, case of at Dumfries, 1088
Lunatic asylums, Dr. Webster on mortality in, 1122
Lungs, capacity of in phthisis, 39; Dr. C. J. B. Williams on the treatment of affections of, in connexion with heart-disease, 470; inflammation of, in children, Dr. Elsässer on, 494, 1175; atelectasis of, Dr. Elsässer on, 497, 1178; œdema of, in a child, 498; changes produced in by purulent infection, 618; gangrene of, Dr. Stokes on, 886; case of cavity in, 1096; cicatrices in, 1097; congestion of, caused by cod-liver oil, 1101.
Lupus, the late Dr. A. T. Thomson's treatment of, 847
Lying-in hospitals, Dr. Webster on mortality in, 1122

McDonnell, Dr. R, on application of nitrate of silver to interior of encysted tumours of labium, 1097
——— Dr., case of strangulated hernia resembling hydrocele, 1103
McGrigor, Sir James, retirement of, 1112
Macintyre, Dr., on lesions of the stomach in diabetes, 353; case of mollities and fragilitas ossium, 904
Mackness, Dr., on Hastings as a Resort for Invalids, *rev.*, 381
Maclachlan, Dr., case of scrofulous abscess of anterior mediastinum, 903
Maclagan, Dr. Douglas, on poisoning by arsenic, 1097
McWilliam, Dr., on the galactagogue and emmenagogue effects of the leaves of the Bofareira, 951, 1085
Madden, Mr. John, case of popliteal aneurism treated by compression, 1101
——— Dr. W. H., cases of ramollissement of medulla spinalis, 10, 516
Madrid, Drs. Cormack and Webster on climate of, 549; medical faculty of, 1112
Magnesia and iron, citrate of, 399
Magnet, Baron von Reichenbach on effects of, 833
Magnetism, Baron von Reichenbach on, *rev.*, 833
Male fern in tænia, 1182
Malgaigne, M., case of extraordinary distension of bladder after parturition, 395
Malignant disease of ovaries and rectum, 297; of bladder, 298
Mammary gland, Mr. Nunn on inflammation of, 302; Mr. Birkett on Diseases of, *rev.*, 1169
Manganese, mineral springs containing, 399
Mania co-existing with uterine disease, Dr. Lever on, 581
Manson, Dr., on inflammation of breast, 304
Marson, Mr. J. F., valvular malformation of heart, 598; disease of spinal cord, 602
Martin-Solon, M., on male fern in tænia, 1182
Materia Medica, catalogue of papers on, 974
Maxillary necrosis of lucifer-match makers, 1008
Mayne, Dr. R. G., on medical observation, 725
Maynwaring, Dr. E., on the Ancient and Modern Practice of Medicine, *rev.*, 553; on the dispensing of medicines, 559
Mazodynia, Mr. Birkett on, 1170
Mazoitis, Mr. Birkett on, 1169
Measles, without eruption, 572; in connexion with cholera, 997; vaginitis after, 1185
Mediastinum, anterior, scrofulous abscess of, 903; posterior, cancer in, 996
Medical Reform, Professor Syme's Letter to Lord Advocate on, *rev.*, 26; meeting of conference respecting, 308; progress of, 807
Medicine, Sacredness of, Dr. G. Wilson on, *rev.*, 33; Rational, Dr. A. Wood's, *rev.*, 272; Dr. G. Wood's Treatise on Practice of, *rev*, 275; Profession of, Mr. Skey's Remarks on, *rev.*, 479
Medico-Chirurgical Transactions, vol. xxxii, *rev.*, 24
Medullary sarcoma of brain, case of, 815
Meigs, Dr., on the expulsion of air from the uterus, 940
Melier, Dr., on the transmission of disease from the uterus to the ovaries, 348; case of explosion of uterine cyst under cauterization, 581
Melloni, M., on the formation of dew, 28
Membrana Jacobi, Mr. H. Gray on development of, 983
Membrana tympani, Mr. Toynbee on structure of, 773
Membrane, adventitious, on arachnoid, 448
Membranous labyrinth, Mr. H. Gray on development of, 984
Meningitis, case of acute, without symptoms, 449
Menorrhagia, tannic acid in, 4
Menstrual fluid, retained, simulating ovarian dropsy, 82
Menstruation, Dr. Routh on periods of commencement and cessation of, 243; condition of uterus and appendages in a woman assassinated soon after, 396; Dr. Tilt on Diseases of, *rev.*, 839; catalogue of papers on diseases of, 861
Mental Pathology, Dr. J. G. Davey's Contributions to, *rev.*, 274
Mercurial vapour-baths in syphilis, Mr. L. Parker on, 633
Mercury, effects of introduction of into a bone, 226; into an artery, 237; in phthisis, Dr. Turnbull on, 118; injurious effects of in purulent infection, 628; acid nitrate of, in diseases of cervix uteri, 167; nitric oxide of, in hydrocele, 190; chloride of. *See* Calomel.
Merrett, Dr. C., on Frauds and Abuses committed by Apothecaries, *rev*, 553
Mesmerism, Mr. J. N. Haddock on, *rev.*, 34
Meteorites, Baron von Reichenbach's explanation of, 838

Metritis, acute, Dr. H. Bennet on, 146; chronic, 147; internal, 147; Dr. Tilt on connexion of with ovaritis, 347
Metropolitan police, medical expenses of, 505
Midwifery, chloroform in, Dr. Waller on, 77; Dr. H. Bennet on, 265; Dr. R. Barnes on, 1076
MIGUEL, M., on calomel and alum in croup, 186
Milk, privation of, a cause of mortality among children, 543, 1120; effect of leaves of castor-oil plant on secretion of, 951, 1085; in breasts of a male infant, 1106
MILLER, Professor, Introductory Lecture on Medical Missions, *rev.*, 30; Principles of Surgery, *rev.*, 852; case of suicide by puncture of an inguinal aneurism, 1097
——— Dr. James, on the Kidney in Scarlatina, *rev.*, 276
Mineral springs containing manganese, 399
Missionary, medical, Dr. W. Brown on qualifications of a, 31
Missions, Medical, Lectures on, *rev.*, 30; success of, 30; importance of, 31
Mollities ossium, case of, with much animal matter in urine, 904
Monstrosity, case of, by Mr. J. B. Harrison, 79
MONTGOMERY, Dr., on excision and ligature in uterine tumours, 213
MOREAU, M., on osteophytes in pregnant women, 93
MORREHEAD, Dr., on delirium tremens, 424
Mortality in London, Dr. Webster on, 540, 1115
Motor oculi, Dr. C. J. Hare's case of paralysis of, from aneurism of posterior communicating artery, 824
Muco-enteritis, with perforation and effusion, Dr. A. Knox's case of, 473
Murderous attack on a physician, 1113
Murmur, placental, M. Cazeaux on, 576; prolonged expiratory, a sign of incipient phthisis, 1013
MURPHY, Dr., on the diagnosis of ovarian dropsy, 82; on inflammation of mammary gland, 304
MURRAY, Sir James, on the organic electric action of the spleen, 1104
Muscle, changes produced in by purulent infection, 621; of arm, case of anomalies in, 690
Muscular contractions after death from cholera, Mr. W. F. Barlow on, 889

Naphtha in phthisis, 44
Narcotics, poisoning by, contrasted with alcoholic poisoning, 426
Nasal fossa, peculiar disease of, 1097
Natis, flattening of, diagnostic of fracture of neck of femur, 893
Nature, Dr. Radcliffe on the Unity of, *rev.*, 752
Neck, ulceration of veins in, after scarlatina, 720; symmetrical fatty swellings of, in idiots, 1012
Necrosis, Mr. Stanley on, 491; maxillary, Dr. Lorinser on, 1008
NELSON, Dr. David, Principles of Health and Disease, *rev.*, 568
Nephritic colic, chloroform in, 989
Nerves, fifth pair of, congestive disease of, 455
Nervine, Dr. S. Alison on tannic acid as a, 8
Nervous Affections, Eccentric, Mr. Anderson on, *rev.*, 755
Nervous system, diseases of, Dr. Madden's illustrations of, 10, 516; Dr. Semple's, 448, 811; catalogue of papers on, 680; relation of digiti semi-mortui to, 698; Mr. Pilcher on affections of, simulating chorea, 1090
Neuralgia, Dr. Downing on, *rev.*, 46; M. Debreyne on belladonna in, 386; of bone, Mr. Stanley on, 489; case of obscure, with disease of brain and liver, 731; chloroform in, 989; enemata of ether in, 1180
New Orleans, Dr. Webster on insalubrity of, 1129
Nicotine, its presence in snuff, 29
NIMMO, Dr., case of Cæsarean section, 1099
Nitric acid, solidified, cauterization with, 74
NUNN, Mr. R. S., on almond oil as a substitute for cod-liver oil, 398
——— Mr. T. W., case of malignant disease of ovaries and rectum, 297; on inflammation of the mamma, 302
NUNNELEY, Mr., on anæsthetic substances, 63
Nutrition, Dr. Haas on the mechanism of, 642, 715
Nux vomica in hay asthma, 700

Obesity, Dr. T. K. Chambers on, *rev.*, 1166
Obituary, 104, 216, 310, 406, 506, 610, 714, 809, 922, 1018, 1114
Observation, medical, Dr. Mayne on, 725
Obstetrics, catalogue of papers on, 857
Odontalgia, chloroform in, 991
Odyle, Baron von Reichenbach on, 833
Œdema of lungs in a child, 498
Œsophagus, stricture of, 501; foreign body in, simulating cerebral disease, 582
Oettinger, M., on cantharidal ether and other preparations of cantharides, 1087
Oil, effects of injection of into an artery, 238
Old persons, operations for hernia in, 507
OLDHAM, Dr., on the undersized womb, 75; on tubercular disease of uterus, 76
OLLIVIER, M., case of disease of spinal cord, 13
Opium in the strangulated hernia of infants, 894
Ophthalmia, granular, powdered acetate of lead in, 190; strumous, Mr. Vincent's treatment of, 379; in new-born children, Dr. Fröbelius on, 999; Dr. Elsässer on, 1176
Optic nerves, Mr. H. Gray on the development of, 980; commissure of, granular corpuscles in, in amaurosis, 570
Oratio Harveiana, 733
Orbit, Dr. Jacob on tumours of, 1101
ORR, Mr., Principles of Surgery, *rev.*, 969
Orthopædic operations, Report on M. Jules Guérin's, *rev.*, 1068
Os calcis, Mr. W. B. Page on excision of, 905
Osteophytes, intra-cranial, Dr. Cormack on relation of to epilepsy and puerperal convulsions, 92; Professor Rokitansky on, 92; M. Moreau on, 93; in longitudinal sinus of a supposed epileptic, 298
Ostro-negroes, M. de Froberville on, 48
Otalgia, chloroform in, 990
Otoscope, description of Mr. Toynbee's, 501
Ovarian dropsy, Mr. I. B. Brown on diagnosis of, 81; Mr. B. Travers, Mr. Druitt, and Dr. Murphy on, 82; Drs. Tilt and Sibson on, 83; Mr. I. B. Brown's new operation for, 202, 1189
Ovarian and uterine disease, Dr. Tilt on connexion of, 347
Ovaries, case of malignant disease of, 297; condition of soon after menstruation, 396; catalogue of papers on diseases of, 861
Ovariotomy, Mr. Duffin's case of, 1186; Dr. R. Lee on, 1187; Mr. B. Phillips on, 1187; Mr. Lawrence on, 1187
Ovaritis an effect of metritis, 348; inducing metritis, 349; Dr. Tilt on, *rev.*, 839
Oxalate of lime in urine, Dr. Bence Jones on, 961
Oxford, sanitary reports in, 1013

PAGE, Mr. W. B., on excision of the os calcis, 905
PAGET, Mr. Thomas, case of open urachus, and extraction of calculus through umbilicus, 1011
PAMARD, MM., cases of lithotomy and lithotrity, 286
Pancreas, Dr. J. Kilgour's case of abscess of, 1052; Dr. W. T. Gairdner's case of atrophy of, 1100
PANUM, Dr., on casein in blood, 685
Paracentesis of cranium, Dr. F. Battersby on, 782; of chest, chronic empyema cured by, 887
Paralysis attending dentition, Dr. Fliess on, 51; of facial nerves in children, 1181

Parasitic animals, Dr. Thomas Smith on Turpentine as a remedy for, 342
Parietal bone, epilepsy coincident with exostosis of, 389
Parisian hospitals for the insane, statistics of, for 1849, 505
PARKER, Mr. Langston, on the Treatment of Syphilis, *rev.*, 663
PARKES, Dr. E. A., case of enlargement of spleen, with unusual number of white corpuscles in blood, 691; his edition of Dr. A. T. Thomson's work on the Skin, *rev.*, 842
PARKMAN, Dr., on chloroform in hydrophobia, 988
Paroxysmal seizures, Dr. M. Hall's table of, 1070
PATERSON, Dr. G., dinner to, 214
Pauper population of London, Dr. Webster on mortality among, 544, 1121
PEACOCK, Dr., case of idiopathic tetanus successfully treated, 16; cases of hydatids of liver, 903
PEDDIE, Dr., case of chronic empyema cured by paracentesis, 887
Pelvis, case of deformed, 1084; injury of during pregnancy, 1093
PENNELL, Dr. C., case of artificial anus, 905
Peptic, Dr. S. Alison on tannic acid as a, 5
Percussion combined with auscultation, 1182
PEREIRA, Dr., on kousso, 896
Perforation of stomach in diabetes, Dr. Macintyre on, 353; case of, with disease of arteries and kidneys, 597
Perineal incision, Mr. Syme on, *rev.*, 35; Mr. Henry Smith on, 304; Mr. Syme on, 573
Perineum, influence of chloroform on laceration of, 1079; case of abscess of, 1106
Peritoneal bands, a cause of intestinal obstruction, 993
Peritonitis, with muco-enteritis and perforation of intestine, Dr. A. Knox's case of, 473; cases of, in children in the hospital at Stuttgart, 496; puerperal, turpentine in, 344
Pertussis, Dr. Thomas Smith on turpentine in, 346; M. Debreyne on belladonna in, 386
PETREQUIN, M., on black cataract, 799
Pharyngeal polypi, M. Langenbeck's operation for, 804
PHILLIPS, Mr. B., on ovariotomy, 1187
Phlebitis, Mr. Henry Lee on the causes, consequences, and treatment of, 217, 613; case of, with cancer of mediastinum, 996
Phosphates in urine, Dr. Bence Jones on, 962
Phthisis, Dr. S. Alison on tannic acid in, 3, 4, 6; Report of Hospital for, *rev.*, 37; influence of sex on, 37; of age, 37; of social condition, 37; of trade and occupation, 37; of hereditary predisposition, 37; capacity of lungs in, 39; hæmoptysis in, 41; duration of, 42; results of treatment of, 42; treatment of, 43; naphtha in, 44; iron in, 44; cod-liver oil in, 44, 119; gallic acid in, 45; Report by Dr. Walshe on, *rev.*, 46; Dr. Cotton's Clinical Lectures on, *rev.*, 46; Dr. Turnbull on curability of, 105; pathology of, 105; evidences of curability of, 107, 121; symptoms of, 111; emphysema antagonistic to, 113; treatment of, 116; mercury in, 118; iodine in, 118; alkalies in, 119; Dr. Hull on, *rev.*, 139; Dr. Thomas Smith on turpentine in, 338; Dr. Gardner on, *rev.*, 664; Dr. C. Holland on Cure of, *rev.*, 849, 1171; prolonged expiratory murmur a sign of, 1013; tannin in, Dr. Cummings on, 1069; climate of Dartmoor in, 1072; Dr. Hutchinson on diagnosis of, 1075; and pregnancy, M. Grisolle on mutual influence of, 382
Physic, old writings on the Practice of, *rev.*, 553
Physicians in England, sources of diplomas of, 309; and apothecaries, relative position of, 553; dispensing of drugs by, 558
PILCHER, Mr. G., on affections simulating chorea, 1090
Placental murmur, Dr. Cazeaux on the cause of, 576
Plagiarisms, foreign, 405
Plethora, in connexion with heart-disease, Dr. C. J. B. Williams on, 317, 465
Pleuro-pneumonia in children, Dr. Elsässer on 494
Plum-stone passed through umbilicus, 301
Pneumogastric nerve, M. Longet on, 181
Pneumonia, mucous, of young children, M. Duclos on, 284; as a complication of fever, 1102; Dr. Kennedy on amount of respiration in, 1107; in children, 1175; Dr. Redtenbacher on urine in, 1179
Pneumothorax, Dr. Robertson's case of, 1095
POLAK, Dr., on complication, sequelæ, and metastases of cholera, 997
Polypus, uterine, Dr. H. Bennet on inflammation of cervix accompanying, 158; Langenbeck on ligature of, 704; Dr. Simpson on treatment of, 707; pharyngeal, Langenbeck's operation for removal of, 804; of rectum in children, 1185
POPHAM, Dr. J., on poisoning by brassica napus 192
Posterior communicating artery, Dr. Hare's case of aneurism of, 824
Posture, effect of on the pulse, 1064
Potash, liquor of, effect of on acidity of urine, 960; tartrate of, effect on acidity of urine, *ibid.*; acetate of, in diseases of the skin, 872; effect of on urine, 875
Potassa fusa, Dr. H. Bennet on, 168; cum calce, *ibid.*
POWER, Dr. J. H., his edition of Flood on the Arteries, *rev.*, 142
POYSER, Mr., case of carbuncle by, 378; on difficulties of diagnosis, 730
Pregnancy, influence of on epilepsy, 87; antagonism of to phthisis, Dr. Turnbull on, 115; M. Grisolle on, 382; Dr. Bennet on inflammation and ulceration of cervix uteri during, 153; Dr. Cazeaux on murmur heard during, 576 catalogue of papers on diseases of, 857
Pressure in conical cornea, Mr. White Cooper on, 533; in hydrocephalus, 785
Principles of Surgery, Professor Miller's, *rev.*, 852; Mr. Orr's, *rev.*, 969
Prisons, Dr. Webster on mortality in, 1121
Procreative power, Dr. Routh on, 240
Prolapsus ani, tannic acid in, 4
Prostate, carcinoma of detected by the microscope, 300
Prostitutes, Dr. Hassing on Colic of, *rev.*, 756
Provident Dispensaries, Mr. H. L. Smith on, 368; first meeting of society for establishment of, 808
Provincial Medical and Surgical Association, anniversary meeting of, 909
Psoriasis, tannic acid in, 5; acetate of potash in, 872
Psychology, catalogue of papers on, 978
Ptosis, hysterical, Mr Canton's case of, 199
Pulse, Dr. Guy on, *rev.*, 1063; effect of age on frequency of, 1064; of sex, 1064; of posture, 1064; of exercise, 1065; of the time of day, 1065; of rest, 1065; of sleep, food, and temperature, 1065; intermission of, 1065
Purgative, oil of turpentine as a, 327
Purging flax, Dr. Butler Lane on, 1010
Purpura hæmorrhagica, turpentine in, Dr. Thos. Smith on, 337; Dr. W. Budd on, 998
Purulent infection, Mr. Henry Lee on, 217, 613; Dr. Skoda on, as a cause of puerperal fever, 700; Langenbeck on production of after ligature of polypi, 704
Pus, effects of on the coagulation of blood, and when introduced into veins, 217, *et seq.*; 613, *et seq.*; in urine, Mr. Colles on, 895

Quack pill-makers not protected by law, 404
QUAIN, Mr., case of urethrotomy by, 62
——— Dr. Richard, on fatty disease of the heart, 705; on the stethometer, 923

Quinidine, Winckler on, 29
Quinine, alkali from Khaya Senegalensis a substitute for, 400

Rabourdin, M., on preparation of atropine by chloroform, 1086
Radcliffe, Dr. C. B., on the Unity of Nature, *rev.*, 752
Radley, Dr., on Dartmoor as a residence for consumptive patients, 1072
Rational Medicine, Dr. A. Wood on, *rev.*, 272
Rau, Dr. W., on medical treatment of cataract, 802
Recamier, M., case of ovaritis with erectile engorgement of cervix uteri, 350
Rectum, malignant disease of, 297; stricture of, 905; polypus of, in children, 1185
Redfern, Dr., on Anormal Nutrition in Articular Cartilage, *rev.*, 568
Redness of skin in entrance of air into veins, 947
Redtenbacher, Dr., on the urine in pneumonia, 1179
Rees, Dr. G. Owen, on Diseases of the Kidney connected with Albuminous Urine, *rev.*, 565; appointed Lettsomian Lecturer to the Medical Society of London, 1089
Regulations of Examining Bodies in London, *rev.*, 651
Reichenbach, Baron von, on Magnetism, *rev.*, 833
Reid, Dr. Joseph, on opium in strangulated hernia of infants, 894
Remuneration of medical witnesses at quarter-sessions, 404
Reproductive function, catalogue of papers on diseases of, 856; on physiology of, 973
Reptiles, cedron a remedy for bites of, 1085
Respiration, catalogue of papers on diseases of organs of, 675; papers on anatomy and physiology of, 972
Retention of urine, case of by Dr. Benson, 1103
Retina, Mr. H. Gray on development of, 980
Retzius, Professor, on the structure of the liver, 47
Revaccination, Dr. A. Knox on, 1137, 1140, 1159
Rheumatic disease of ear, 55
Rheumatism, Dr. Garrod on connexion of with gout, 583; Dr. Begbie on connexion of erythema nodosum with, 774; ether enemata in, 1180
Ricinus communis, galactagogue and emmenagogue properties of leaves of, 951, 1085
Rickets, Dr. S. Alison on tannic acid in, 5;
Ricord, M., his treatment of chancres, 605; of vesical catarrh, 606; of stricture, 606
Rigor mortis, long delay of after death from cholera, 891
Rivallier, M., on cauterization with solidified nitric acid, 74
Robertson, Dr. W., case of pneumothorax, 1095
Robins, Mr., extraction of a tooth with Mr. Gilbert's fulcrum, 574
Rogee, M., on transformation of tubercle, 109
Roger, M., on combination of auscultation with percussion, 1182
Rokitansky, Professor, on intra-cranial osteophytes during pregnancy, 92
Romberg, Professor, on facial paralysis in children, 1181
Rose, Professor H., on the oxidation of organic bodies, 966
Routh, Dr., on renal disease as a cause of puerperal convulsions, 96; on procreative power, 240; case of foreign body in œsophagus simulating cerebral disease, 582
Rumley, Mr., case of abscess in perineum, 1106

Sachs, Dr., on chloroform in midwifery, 1071
Sailors, Dr. Webster on mortality among, 1120
Salaam convulsions. Dr. Faber's case of, 569; Dr. Willshire on, 590
Saline treatment of cholera, Dr. Bushnan on, 966
Salivary calculus, case of, 1100
Salpêtrière, statistics of the, for 1849, 505
Sannemann, Mr., case of Cæsarean section, 1084
Sarti, Signor, death of, 1113
Scarlatina, Dr. James Miller on Pathology of the Kidney in, *rev.*, 276; Dr Hale's case of ulceration of cervical veins after, 720; Dr. Schneemann on cutaneous inunction in, 865; Drs. Barnes and Cormack on vaginitis in, 869
Schneemann, Dr., on the treatment of scarlet fever by cutaneous inunction, 865
Sclerosis of skin in children, 1173
Schuh, Professor, case of entrance of air into a vein, 936
Scott, Dr. John, on affections of the larynx, 1099
Scrofula in bone, Mr. Stanley on, 492
Seaton, Dr. E. C., case of softening of spinal cord, 1030
Secretions, how affected by pressure of blood, 644; catalogue of diseases of, 666
Sedatives in heart-disease, Dr. C. J. B. Williams on, 462
Sedillot, M., his plagiarism of Mr. Fergusson's operation for staphyloraphy, 405
Seizures, paroxysmal, Dr. M. Hall's table of, 1070
Selkirk, Dr., on chloroform in delirium tremens, 988; in traumatic tetanus, 991
Semicircular canals, development of membranous lining of, 985
Semmelweis, Dr., experiments on the cause of puerperal fever, 700
Semple, Dr., on diseases of the nervous system, 448, 811; on valvular diseases of the heart, 1019, 1090
Serous membranes, how affected by purulent infection, 621
Sex, influence of on phthisis, 37; on pulse, 1064
Sharp, Mr., case of intestinal concretions, 1093
Shoulder-joint, peculiar injury of, 1194
Sibson, Dr., on the detection of adhesions in ovarian dropsy, 83; on the falling in of the chest during inspiration, 83
Silver, nitrate of, in erysipelas, 57, 58, 191; in inflammation of cervix uteri, 167; as a local application in conical cornea, 536; in encysted tumour of labium, 1007; method of applying to larynx, 1075
——— oxyde of, in tape-worm, 880
Simpson, Dr. J. Y., on ligature of uterine polypi, 707; case of entrance of air into uterine veins, 946; on scarlatinoid rash after entrance of air into veins, 947; case of tubercle of uterus, 1094; on eruptions of cervix uteri, 1097
Sinus, longitudinal, osteophytes in, 298
Skey, Mr., his Hunterian Oration, *rev.*, 479
Skin, tannic acid in diseases of, 5; affected by purulent infection, 620; cases of mortification of, 631; catalogue of papers on diseases of, 668; Dr. A. T. Thomson on Diseases of, *rev.*, 872; Mr. Hunt on Diseases of, *rev.*, 855; Dr Easton on acetate of potash in diseases of, 872; sclerosis of, in children, 1173
Skoda, Dr., on the causes of puerperal fever, 700
Sloman, Mr. S. G., on chloroform in tetanus, 991
Small-pox, valvular malformation of heart in a man dying of, 598; Dr. A. Knox on vaccination as a preventive of, 1037, 1134; history of, 1037; inoculated form of, 1039; modified, 1135. *See* Vaccination.
Smith, Dr. G., on chloroform in hydrophobia, 989
——— Mr. Henry, case of caries of head of femur, 296; on the perineal incision, 304
——— Mr. H. L., on Provident Dispensaries, 368
——— Dr. R. W., on disjunction of the epiphysis of humerus, 389; on early operation for hare-lip, 1110
——— Dr. Thomas, on the therapeutical uses of terebinthinate medicines, 321
——— Dr. Tyler, case of long umbilical cord, 199; on stimulant enemata in abortion, 305; on ulceration of cervix uteri, 592; on the galactagogue and emmenagogue effects of the leaves of the castor-oil plant, 951

Snow, Dr., method of detecting chloroform in blood, 602
Social condition, influence of on phthisis, 37
Society, Royal Medical and Chirurgical, reports of, 78, 195, 294, 504, 705, 903, 1011, 1186; anniversary meeting of, 503; new bye-laws of, 504; office-bearers, 505; Transactions of, *rev.*, 24; Charter, Bye-laws, and Catalogue, *rev.*, 177; remarks on election of office-bearers at, 306; proposed change in the Berners-street house, 1013
——— Westminster Medical, reports of, 81, 199, 296, 582; union of with London Medical Society, 214, 1014; election of officers at, 306, 697; termination of, 608
——— Medical of London, approaching session of, 1014, 1111; reports of, 1089, 1188
——— Western Medical and Surgical, anniversary meeting of, 608
——— Epidemiological, first public meeting of, 906
——— for the formation of Provident Dispensaries, first public meeting of, 907
——— Medico-Chirurgical of Edinburgh, reports of, 707, 1092
——— Surgical of Ireland, reports of, 208, 1101, 1190
Softening of brain in children, in the Stuttgart hospital, 494; Dr. Semple's case of, 811; of spinal cord, Dr. Madden's case of, 516; Dr. Semple's case of, 819; Dr. Seaton's case of, 1030; of stomach in children, 1175
Soldiers, Dr. Webster on mortality among, 1120
Solly, Mr., case of ileus and strangulated hernia in same individual, 1013
Soule, M., case of hair-pin in urethra, 293
Spain, medical profession in, 1112; low circulation of medical journals, 1112
Speculum, Mr. Coxeter's modification of, described, 172; Dr. Lee on use of, 905
Speech, loss of, during pregnancy, 1012; in a case of hemiplegia, 1083
Spermatic cord, hæmatocele of, 904
Spinal cord, cases of softening of, 10, 13, 518, 819, 1030; case of disease of, 602
Spirometer, results of observations with, at the Hospital for consumption, 39
Spittal, Dr., case of cavity in a lung, 1096
Spleen, changes produced in by purulent infection, 619; Dr. Parkes on idiopathic enlargement of, with increase of white corpuscles in blood, 691; Sir J. Murray on organic electric action of, 1104
Sponge-tents, Dr. J. Y. Simpson on, 707
Spooner, Mr. E. O., on vaccine matter, 1134
Spurgin, Mr. B., on the Provident Dispensary at Northampton, 374
Stanley, Mr., on Diseases of the Bones, *rev.*, 489
Staphyloraphy, M. Sédillot's plagiarism of Mr. Fergusson's operation for, 405
Stapleton, Dr., on cod-liver oil, 1103
Stark, Dr., on rupture of crucial ligaments, 1183
Sterility, Dr. Tilt on, 839; Japanese remedy for, 1083
Sterno-mastoid, case of division of, for wry neck, 1108
Sternum, case of absence of, 601
Stethometer, Dr. Richard Quain on, 923
Stewart, Dr. A. P., on Sanitary Economics, *rev.*, 173
Stille, Dr, on chloroform in nephritic colic, 989
Stimulants in heart-disease, Dr. C. J. B. Williams on, 463; cautions regarding use of, 464
Stokes, Dr., on gangrene of the lungs, 886
Stomach, Dr. Macintyre on lesions of, in connection with diabetes, 353; Dr. Taylor's case of perforating ulcer of, 597; softening of, in children, 1175
Stramonium, symptoms of poisoning by, as distinguished from alcoholic poisoning, Drs. J. Bird and H. Giraud on, 426
Streeter, Mr., on epilepsy and puerperal convulsions, 93
Stricture of Urethra, Mr. Syme on, *rev.*, 35; Mr. H. Smith on perineal incision for, 304; with extravasation of urine, 199; Mr. Syme's challenge concerning perineal incision in, 573; M. Ricord's treatment of, 606
Strumous ophthalmia, Mr. Vincent's treatment of, 379
Strychnine in paralysis of bladder, 882
Styptic, Dr. W. Budd on turpentine as a, 998
Subclavian vein, fatal ulceration of branch of, in scarlatina, 720
Suffocation, Dr. S. Wright on Death from, *rev.*, 753
Sugar in urine, Dr. Bence Jones on, 964
Suicide by puncture of inguinal aneurism, 1097
Sulphates in urine, Dr. Bence Jones on, 961
Sulphur in cholera, Dr. Lorie on, 500
Sulphuric acid, effect of on acidity of urine, 960
Summer-sleep of amphibia, Dr. Haas on, 644
Superior mesenteric artery, aneurism of, 1094
Suppuration of bone, Mr. Stanley on, 490
Supra-renal capsule, tumour of, 1096
Surgery, classified catalogue of papers on, in British and American journals, 758
Surgical Practice, Mr. Vincent's Observations on, *rev.*, 376
Swan, Rev. W., on Importance of Medical Missions, *rev.*, 31
Syme, Professor, letter to the Lord Advocate on Medical Reform, *rev.*, 26; on Stricture of Urethra and Fistula in Perinæo, *rev.*, 35; his challenge concerning perineal incision, 573; on excision of tonsils, 1006; on intra-abdominal hernia, 1092; on non-malignant recurrent tumours, 1094; on anæmia and goitre, 1098; fatty tumours, *ibid.*; evulsion of tendons, 1100; urinary and salivary calculi, *ibid.*
Synovitis of knee-joint in an infant during dentition, 585
Syphilis, secondary, Mr. L. Parker on Treatment of, *rev.*, 663
Syphilitic Sarcocele, Mr. Hamilton on, *rev.*, 36; ulceration of cervix uteri, Dr. H. Bennet on, 161; eruptions, Mr. Hunt on, 1190

Tannic acid, Dr. Scott Alison on the use and administration of, in disease, 1; Dr. A. J. Cummings on, 1069; history and properties of, 1; physiological and therapeutical effects of, 3; as an astringent, 3, 1069; a peptic, 4; a histogenetic, 5; a remedy for heterologous formations, 6; a nervine, 8; mode of administration, 8
Tape-worm, Dr. Thomas Smith on turpentine in, 343; Mr. Whittell on oxide of silver in, 880; Dr. Pereira on kousso in, 896; Dr. Legendre on diagnosis of, 1073; Dr. Wawruch on, 1073; M. Martin-Solon on male fern in, 1182
Tartar emetic in delirium tremens, Dr. James Bird on, 433
Tartaric acid, effect of, on acidity of urine, 960
Taylor, Dr., case of perforating ulcer of stomach, 597
——— Mr. W., on Cutaneous Inunction in Febrile and other Diseases, *rev.*, 970
Teeth, Mr. Gilbert on the Extraction of, *rev.*, 757
Tendo-Achillis, Mr. De Morgan on section of in fractures of leg, 78; Mr. Charles Hawkins on, 78; Mr. Erichsen on, 79; Mr. Shaw on, 79
Tetanus, idiopathic, Dr. Peacock's case of, 16; case of, in an infant, 498; chloroform in, 991
Thermaclin, Dr. A. Toulmin on the, 853
Thomas, Dr. J. C., on applying nitrate of silver to the larynx, 1075
Thomson, Dr. A. T., on Diseases of the Skin, *rev.*, 842; life of, 842; his classification of skin-diseases, 845; on constitutional treatment, 846; on treatment of lupus, 847

THOMSON, Dr. R. D., on the nature and cause of cholera, 294
——— Dr. Spencer, on Temperance and Total Abstinence, *rev.*, 1058
THOMPSON, Mr. C. R., on obstruction of intestinal canal from peritoneal bands, 993
——— Dr. H., case of successful excision of elbow-joint, 1193
——— Dr. Theophilus, on prolonged expiratory murmur as a sign of phthisis, 1013; on choreic affections, 1092
Throat, scarlatinal affection of, Dr. Schneemann on treatment of, 867
Thrombus of vulva, case of rupture of, 395
THURNAM, Dr., on aneurism of heart, 1191
Thyroid body, cases of absence of in idiots, 1011
TILT, Dr., on the diagnosis of ovarian dropsy, 83; on the connexion of ovarian and uterine disease, 347; on Diseases of Menstruation and Ovarian Inflammation, *rev.*, 839
Toes, case of congenital hypertrophy of, 1109
Tongue, Dr. C. Fleming on a peculiar form of inflammation of, 882; on a tubercular affection of, 883
Tonics, Dr. C. J. B. Williams on, in heart-diseases, 453
Tonsil, case of ulceration of, 81; excision of, Mr. Harvey on, *rev.*, 850; Mr. Syme on, 1006
TOULMIN, Dr. A., on Gout, *rev.*, 853
Toxæmia, renal, a cause of puerperal convulsions, Dr. Routh on, 96
Toxicology, catalogue of papers on, 975
TOYNBEE, Mr, his otoscope described, 501; on the membrana tympani, 773
Trades and occupations, influence of, on phthisis, 37
TRAILL, Dr. John, case of salivary calculus, 1100
TRAVERS, Mr. B., jun., case of retained menstrual fluid simulating ovarian dropsy, 82; on venereal ulcers not curable by mercury, 200, 207
Trismus in children, Dr. Elsässer on, 1174
TROUSSEAU, M., on alum in croup, 187; on infantile diarrhœa and cholera, 187
Truss, Description of Mr. G. R. Dartnell's improved, *rev.*, 563
Tubercle, Dr. S. Alison on tannic acid as a remedy for, 6; pathology of, Dr. Turnbull on, 105; transformation of, 107; Laennec on, 107; Louis on, 108; Rogée on, 108; Rokitansky on, 109; Dr. C. J. B. Williams on, 109, 111; influence of pregnancy on, 382; in uterus, 76, 1094
Tubercular affection of tongue, Dr. C. Fleming on, 883
Tuberculosis of brain in a child, case of, 498
TUERCK, Dr. L., on granular corpuscles in the brain and spinal cord in hemiplegia, 387; in the optic commissure in amaurosis, 570
TUFNELL, Mr. J., case of cauliflower excrescence of uterus, 208; of aneurism of heart, 1190
Tumour, vascular, of urethra, 86; fibro-cystic of uterus, Mr. P. Hewett's case of, 611; non-malignant recurrent, Mr. Syme on, 1094; of eye and orbit, Dr. Jacob on, 1101
Tunica vaginalis, case of hydrocele of, 904
TURNBULL, Dr. James, on the curability of pulmonary consumption, 105
TURNER, Mr., on chloroform in puerperal convulsions, 988
Turpentine, oil of, Dr. Thomas Smith on therapeutical uses of, 321; history of, 322; physical and chemical properties, and mode of preparation, 323; physiological effects, 324; therapeutical effects, 325; as a counter-irritant, 326; a vermifuge, 326; a purgative, 327; a diuretic, 327; an astringent, 328; external use of, 329; in hæmatemesis, 330; in epistaxis, 334; in hæmaturia, 335; in capillary hæmorrhage, 336; in purpura hæmorrhagica, 337; Dr. W. Budd on, 998; in hæmoptysis, Dr. Smith on, 338; for parasitic worms, 342; in chronic rheumatism, 343; in flatulent distension of abdomen, 343; in puerperal convulsions and peritonitis, 344; in diseases of nervous system, 345; in burns and scalds, 345; in pertussis, 346

Ulcer, perforating, of stomach, case of, 597
Ulceration of intestines, Dr. James Bird on, 86; of bone, Mr. Stanley on, 490, of cervix uteri, relative frequency of, Dr. H. Bennet on, 578; Dr. Tyler Smith on, 592; Dr. Robert Lee on, 905
Umbilical cord, extraordinary length of an, 199
Umbilicus, plum-stone evacuated through an opening at, 301; case of abscess at, 473; case of extraction of calculus through, 1011; polypous excrescences from in children, 1183
UNDERWOOD'S Medical Appointment Book, *rev.*, 180
Unity of Nature, Dr. Radcliffe on, *rev.*, 752
University of London, Regulations of, *rev.*, 651
Urachus, open, case of, 1011
Urate of ammonia in urine, Dr. Bence Jones on, 961
Urethra, case of vascular tumour of, 86; case of hair-pin in, 293; stricture of, Mr. H. Smith on perineal incision in, 304; Mr. Syme on, 35, 573; M. Ricord's treatment of, 606; grubs in, removed by turpentine, 343; peculiar conformation of in a female, 395
Urethrotomy, Mr. Syme on, *rev.*, 35; cases of, by Mr. Fergusson, 61; by Mr. Quain, 62; Mr. H. Smith on, 304; Mr. Syme's challenge concerning, 573
Uric acid in blood, Dr. Garrod on detection of, 584; Dr. Bence Jones on, 959; in urine, 960
Urinary organs, Mr. Vincent on diseases of, 379; catalogue of papers on diseases of, 769
Urine, case of extravasation of, from stricture, 199; M. Malgaigne's case of retention of after delivery, 395; albumen in, Dr. Owen Rees on, 565; Dr. B. Jones on, 963; Dr. Easton on action of ace ate of potash on, 875; Mr. Colles on pus in, 895; Dr. Bence Jones on quantity and acidity of, 960; on oxalate of lime and sulphates in, 961; on phosphates in, 962; alkalescence of, 963; relation of to food and system, 965; retention of, 1011, 1103; case of so-called chylous, 1012; in pneumonia, 1179
Uterus, undersized, Dr. Oldham on, 75; tubercular disease of, 76, 1094; Dr. Lever's case of laceration of, 131; Inflammation of, Dr. Henry Bennet on, *rev.*, 146; inflammation of body of, 151; inflammation and ulceration of neck of, 152, 576, 592; occurring during pregnancy, 153; accompanying polypi, 158; syphilitic ulceration of neck of, 161; cancer of, 162; treatment of inflammation of neck, 164; vaginal injections, 164; leeches, 165; cauterization, 167; cauliflower excrescence of, Mr. Tufnell's case of, 208; Dr. Johns on 212; Dr. Montgomery on, 213; Dr. Henry Bennet on chloroform in painful disease of, 270; Dr. Tilt on pathological connexion of ovaries with, 347, 839; state of, soon after menstruation, 396; explosion of cyst of, under cauterization, 581; mania co-existent with disease of, 581; entrance of air into veins of, Dr. Cormack on, 589, 928; case of fibro-cystic tumour of, 611; vitiated fluids observed in, after child-birth, 638; polypus of, Langenbeck on removal of, 704; Dr. Simpson on, 707; catalogue of papers on diseases of, 861; gravid, anteversion and prolapse of, 1084

Vaccination, Dr. Alexander Knox on our knowledge concerning, 1037, 1134; history of, 1041; effects of, 1042; evidence in favour of protective influence of, 1044; tests of efficient performance of, 1136; proofs of efficacy of, 1138; causes of failure of, 1141; means of obviating failure of, 1151; proper mode of performing, 1156; simultaneous with variolous infection,

effects of, 1158; success of repetition of, 1159; means recommended for promotion of, 1163; conclusions respecting, 1164
Vaccine pustule in cow, description of, 1045; in human subject, 1047
Vagina, adhesions of, after measles, 1185
Vaginal injections, Dr. Henry Bennet on, 164
Vaginitis scarlatinal, Drs. Barnes and Cormack on, 869
Valvular disease of heart. *See* Heart.
Van der Corput, M., on citrate of iron and magnesia, 400
Van Hengel, M., on real and apparent death in new-born children, 193
Variola. *See* Small-pox.
——— vaccinia. *See* Cow-pock.
Varix, aneurismal, Mr. Cadge's case of, 126
Veins, Mr. H. Lee on inflammation of, 217, 613; coagulation of blood in, 218; effect of pus on coagulation in, 218; changes in from presence of foreign matters, 224; experiments on introduction of pus and other foreign matters into, 231; constitutional symptoms produced by, 617; treatment of, 625; cases of, 631; uterine, Dr. Cormack on the introduction of air into, 589, 928; of neck, case of fatal ulceration of, after scarlatina, 720
Venereal diseases, Mr. Acton on M. Ricord's treatment of, 605; ulcers, Mr. B. Travers on, 200, 207; Mr. Acton on, 206
Vermifuge, Dr. Thomas Smith, on turpentine as a, 326, 342; Dr. Pereira on kousso, as a, 896
Vesical catarrh, M. Ricord's treatment of, 606,
Vesiculæ seminales, case of abscess of, opening into abdominal cavity, 1013
Veterinary surgeons, education of, 921
Vincent, Mr., Observations on some parts of Surgical Practice, *rev.*, 376
Violent deaths, Dr. Webster on, 1120
Volger, M., on structure of flame of candle, 29
Voltaic battery for medical use, Dr. Thomas Wright on a, 1094
Vomiting, a symptom of purulent infection, 618; in pancreatic disease, 1052
Vulva, M. Wyffel's case of rupture of thrombus of, during parturition, 395

Walker, Mr. G. A., proposed testimonial to, 1016
Wallace, Dr. Clay, on the Adjustment of the Eye to Distances, *rev.*, 1172
Waller, Dr., on ether and chloroform in midwifery, 77
Walshe, Dr., his Report on Pulmonary Phthisis, *rev.*, 46; on an auscultatory sign of enlarged liver, 797
Walton, Mr. Haynes, case of caries of head of femur, 301; on entropium, 601
Wardell, Dr., case of death from hæmorrhage into bladder, 586
Warmth, influence of on animal life, 647
Water supplied to London, Dr. A. Hassall's Microscopic Examination of, *rev*, 493
Wawruch, Dr., on the diagnosis of tape-worm, 1074
Webster, Dr., insanity from chloroform during labour, 90; on the health of London, 540, 1115
Wedl, Dr., on cryptogamic vegetations in the hair in favus, 283
Weight, effect of cod-liver oil in increasing, 45, 1075
West, Dr., on typhus, typhoid, and infantile remittent fever, 80
Wet blanket, Dr. Peacock's case of successful use of in tetanus, 16
Wet-nurses, Dr. Webster on employment of, 543
Whiteman, Mr. R. H., presentation of testimonial to, 309
Whittell, Mr. H. T., on oxide of silver in tape-worm, 880
Whittle, Dr. Ewing, on Cholera, *rev.*, 1170
Whitworth, Mr. H. B., on the Provident Dispensary at Northampton, 374
Williams, Dr. C. J. B., on the prognosis and treatment of organic diseases of the heart, 311, 460; correspondence with a homœopathist, 403; on the pathology of Bright's disease, 502; on hydatids in liver, 903
——— Dr. E., on a Japanese remedy for sterility, 1083
Willshire, Dr., on eclampsia nutans, 590
Wilson, Dr. George, on the Sacredness of Medicine, *rev.*, 33
——— Dr. J. A., Oratio Harveiana, 733
Winckler, M., quinidine discovered by, 29
Wing, Mr., on epilepsy and puerperal convulsions, 94
Wintrich, Dr., case of entrance of air into uterine veins, 946
Wood, Dr. A., Rational Medicine, *rev.*, 272
——— Dr. G., Treatise on the Practice of Medicine, *rev.*, 275
Woodfall, Dr., case of osteophytes in longitudinal sinus, 298
Worms, parasitic, Dr. Thomas Smith on turpentine as a remedy for, 326, 342
Wright, Dr. Samuel, on Death from Suffocation and Syncope, and on Vital and Post-mortem Burning, *rev.*, 753
——— Dr. Thomas, on a voltaic battery for medical use, 1094
Wry-neck, division of sterno-mastoid muscle in a case of, 1108
Wyffels, M., case of rupture of a thrombus of the vulva during parturition, 395

Yearsley, Mr., on Deafness, *rev.*, 1067

Zinc, acetate of, as an application in conical cornea, 537; chloride of, case of poisoning by, 1011

ILLUSTRATIONS.

Mr. I. B. Brown's New Operation for Ovarian Dropsy - - - - - - - 203
Conical Cornea. Figs. 1, 2, 3, 4. In Mr. White Cooper's paper - - - - - 410-11
Halo surrounding a Parlour-lamp. Ditto - - - - - - - - 412
Rings surrounding Luminous Bodies. Two Figs. Ditto - - - - - - - 413
Muscæ Volitantes. Two Figs. Ditto - - - - - - - 414
Lower Jaw, and Tooth with Curved Fangs - - - - - - - - - - - 575
Appearances produced by Stagnation of Vitiated Blood in Lungs. Coloured Lithograph.
In Mr. H. Lee's paper - - - - - - - - - - - - - - 624
The Stethometer. Figs. 1, 2, 3, 4. In Dr. R. Quain's paper - - - - - - - 924-26